Ordnung und Unordnung

oder

Dipolare Gläser

Gleichgewichts-Konfigurationen von Magneten auf verschiedenen Gittern
Teil 1: Dreiecks-Gitter

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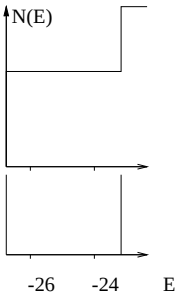
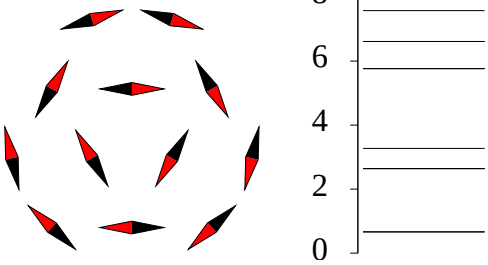
Diese Berechnungen wurden anlässlich der Erstellung der Plastik Ordnung und Unordnung im Kirchhoff-Institut für Physik der Universität Heidelberg durchgeführt.

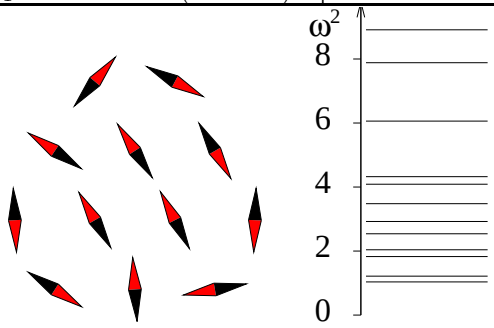
Dreiecks-Gitter (1,2)



Anzahl Gitterpunkte: 12, Gefundene Energie-Niveaus: 2, Läufe: 1000

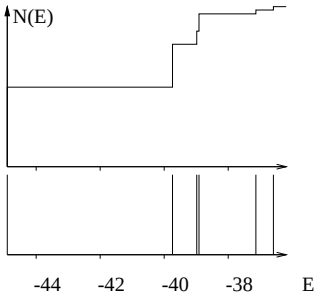


$E_1 = -26.75278$ (595 mal) $\omega_1^2 = 0.66588$

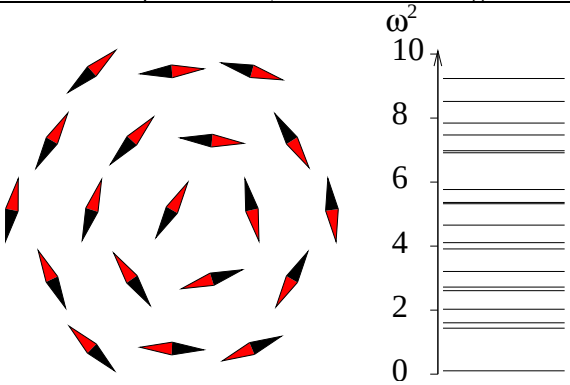


$E_2 = -23.16575$ (405 mal) $\omega_1^2 = 1.03689$

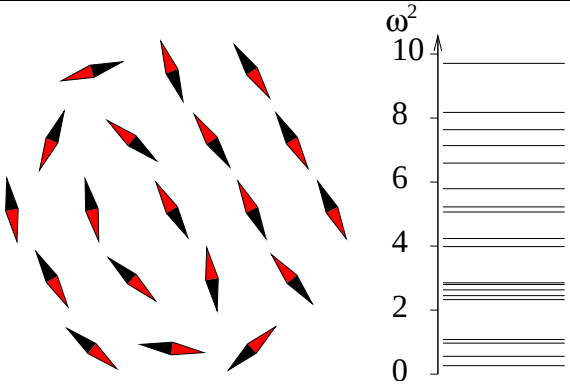
Dreiecks-Gitter (2,2)



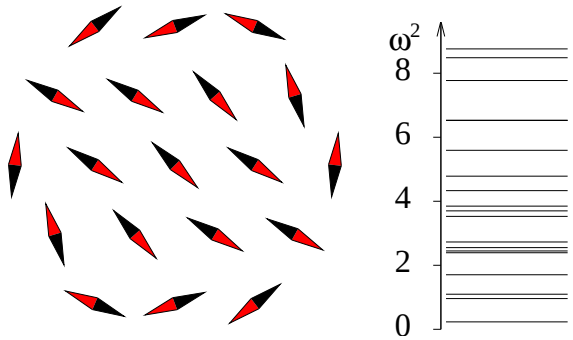
Anzahl Gitterpunkte: 19, Gefundene Energie-Niveaus: 6, Läufe: 1000



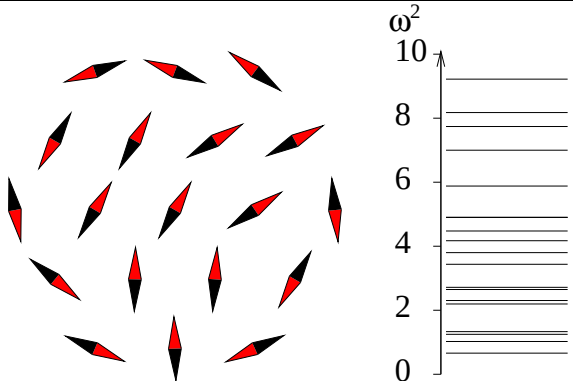
$E_1 = -44.90286$ (497 mal) $\omega_1^2 = 0.10369$



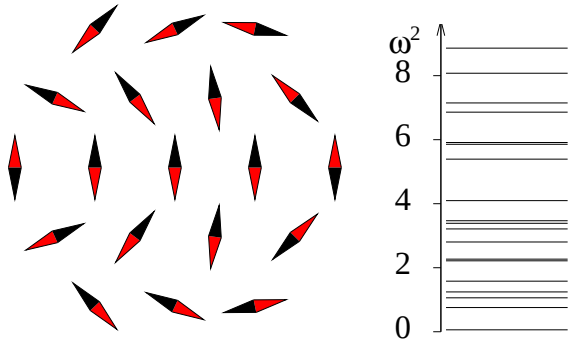
$E_2 = -39.73996$ (268 mal) $\omega_1^2 = 0.26494$



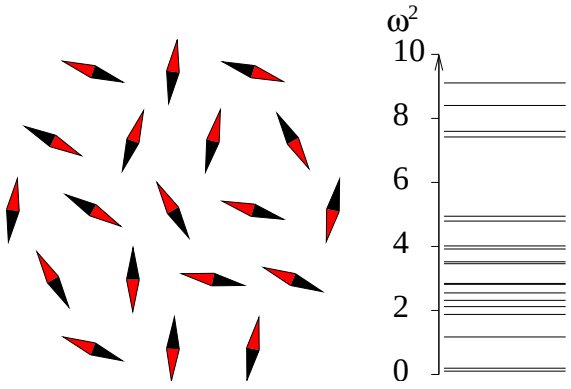
$E_3 = -38.98309$ (82 mal) $\omega_1^2 = 0.23045$



$E_4 = -38.91355$ (108 mal) $\omega_1^2 = 0.65965$

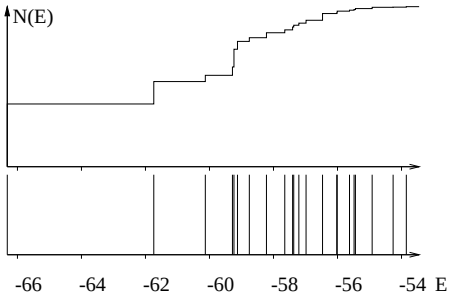


$E_5 = -37.13474$ (24 mal) $\omega_1^2 = 0.05983$

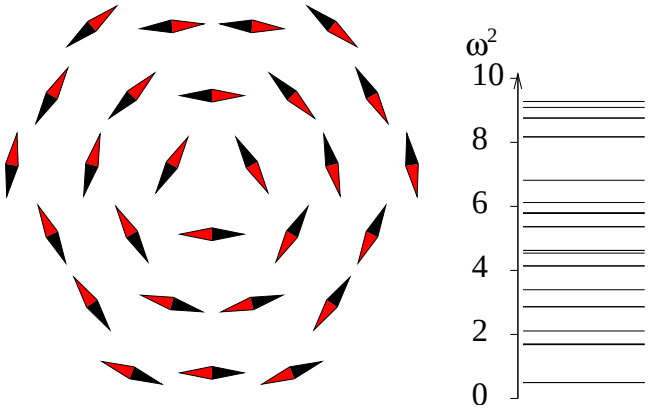


$E_6 = -36.58697$ (21 mal) $\omega_1^2 = 0.10343$

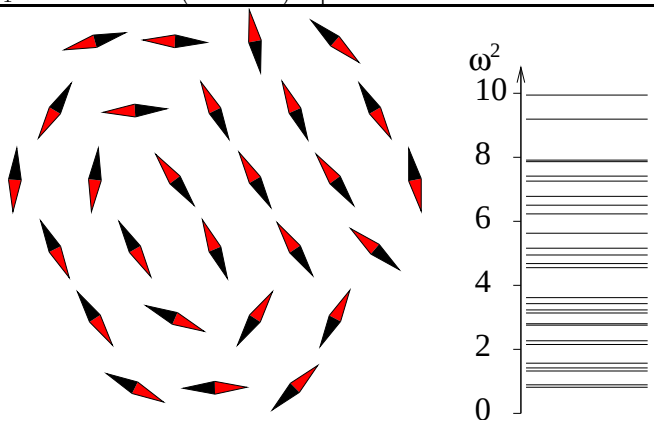
Dreiecks-Gitter (3,2)



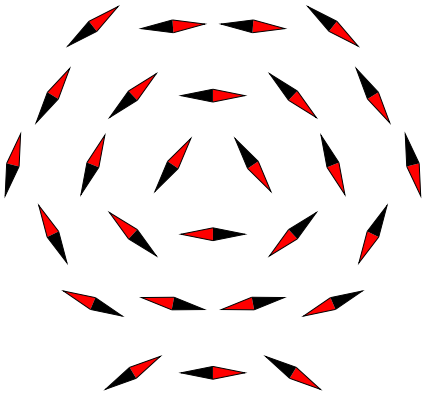
Anzahl Gitterpunkte: 27, Gefundene Energie-Niveaus: 22, Läufe: 1000



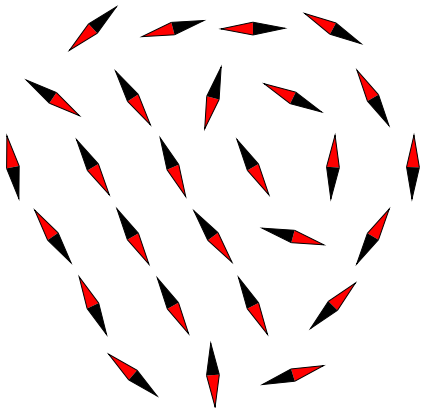
$E_1 = -66.31765$ (392 mal) $\omega_1^2 = 0.49615$



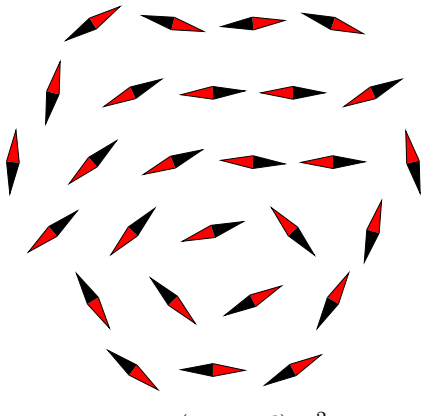
$E_2 = -61.73899$ (140 mal) $\omega_1^2 = 0.81763$



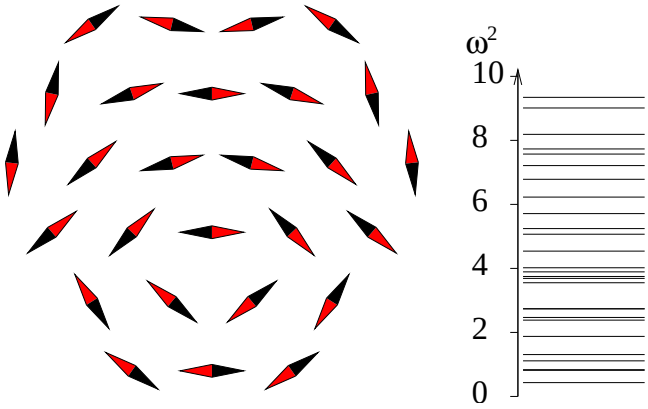
$E_3 = -60.13103$ (39 mal) $\omega_1^2 = 0.08748$



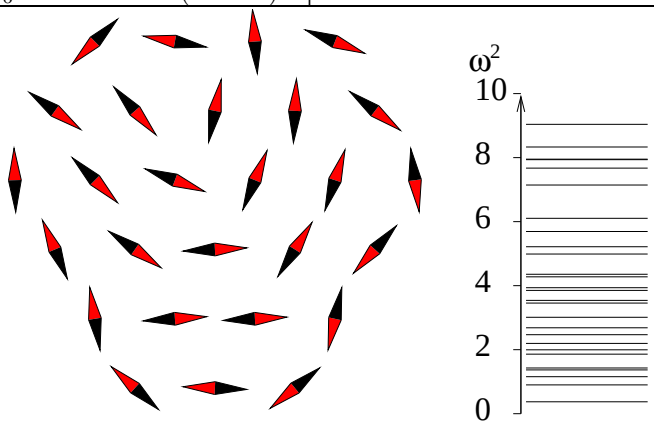
$E_4 = -59.28292$ (52 mal) $\omega_1^2 = 0.43750$



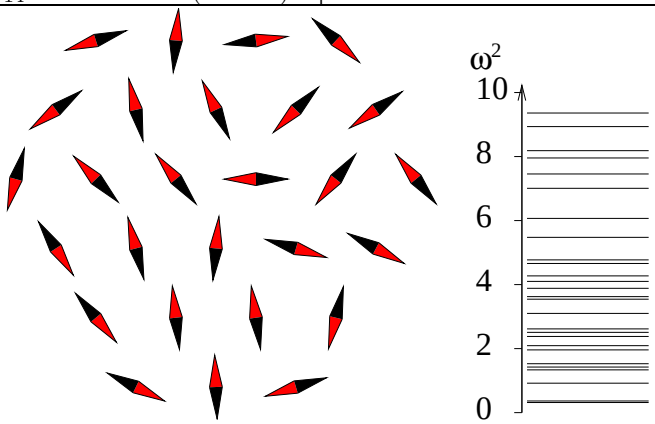
$E_5 = -59.23422$ (111 mal) $\omega_1^2 = 0.32284$



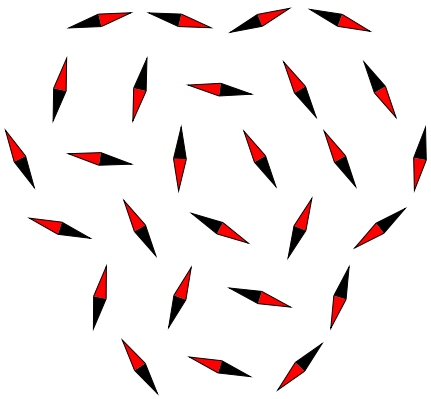
$E_6 = -59.12431$ (49 mal) $\omega_1^2 = 0.43021$

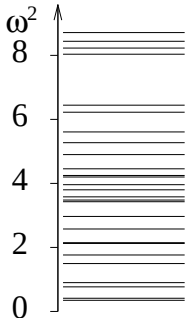


$E_{14} = -56.46878$ (42 mal) $\omega_1^2 = 0.37272$

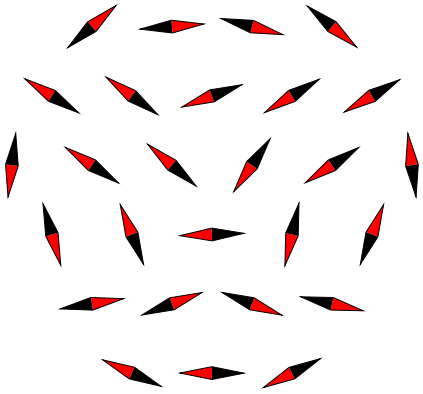


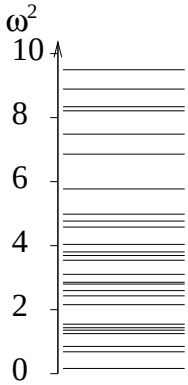
$E_{20} = -54.91841$ (8 mal) $\omega_1^2 = 0.31502$





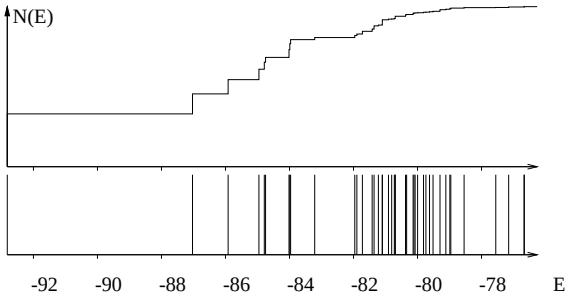
$E_{21} = -54.26217$ (1 mal) $\omega_1^2 = 0.34937$



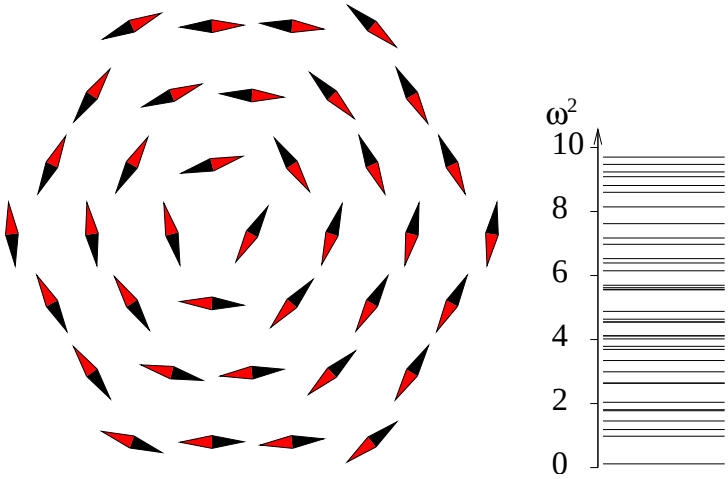


$E_{22} = -53.85115$ (3 mal) $\omega_1^2 = 0.16395$

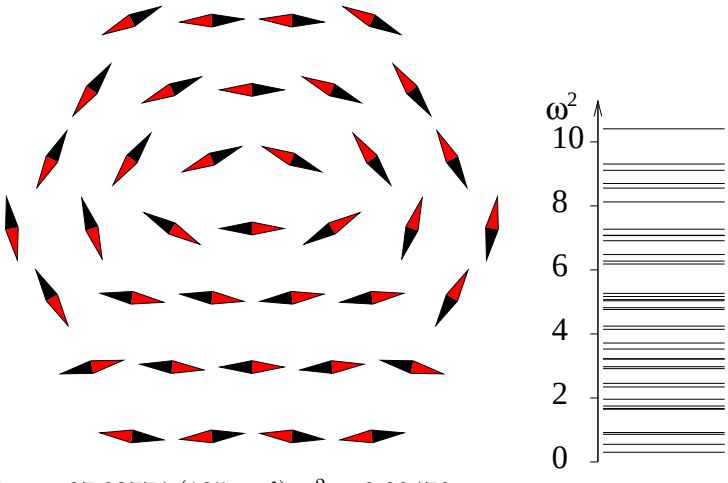
Dreiecks-Gitter (3,3)



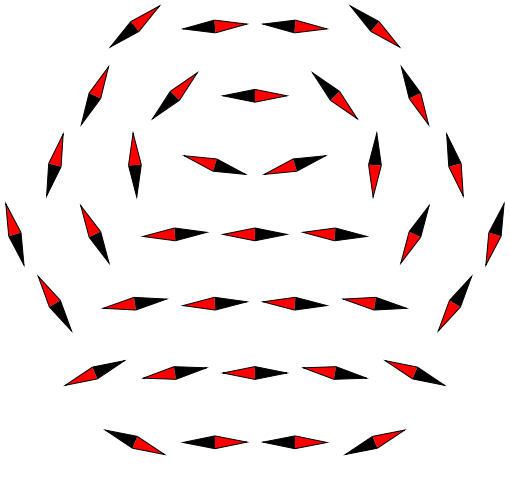
Anzahl Gitterpunkte: 37, Gefundene Energie-Niveaus: 42, Läufe: 1000



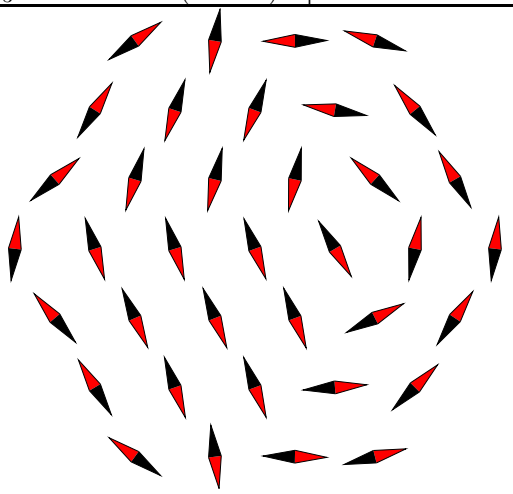
$E_1 = -92.81646$ (330 mal) $\omega_1^2 = 0.11682$



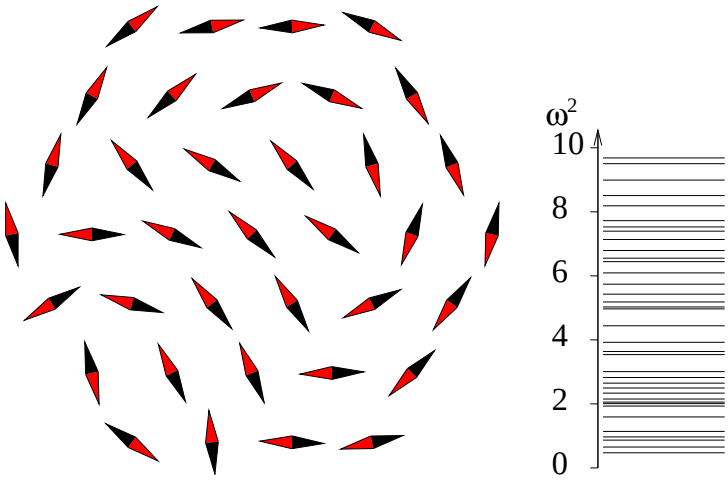
$E_2 = -87.02774$ (125 mal) $\omega_1^2 = 0.30476$



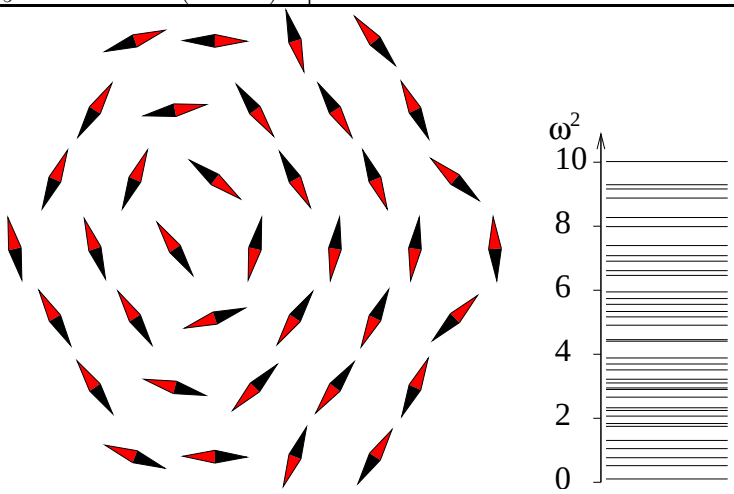
$E_3 = -85.91717$ (89 mal) $\omega_1^2 = 0.55640$



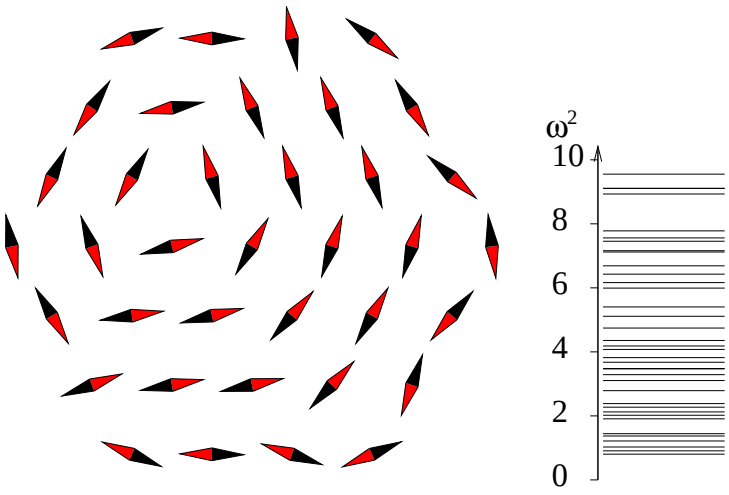
$E_4 = -84.95391$ (65 mal) $\omega_1^2 = 0.26677$



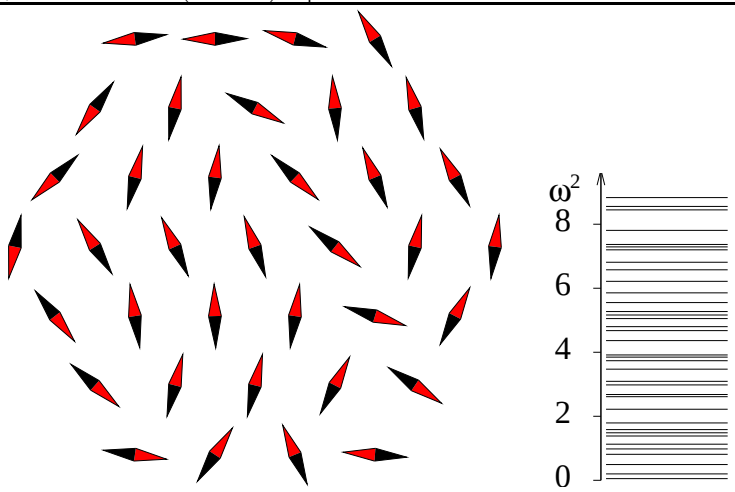
$E_5 = -84.78693$ (44 mal) $\omega_1^2 = 0.47040$



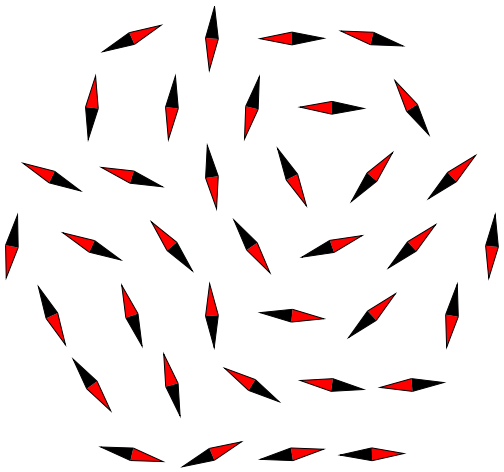
$E_6 = -84.74587$ (30 mal) $\omega_1^2 = 0.10570$



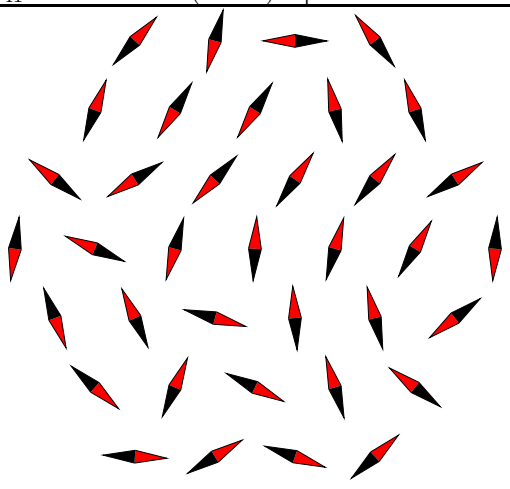
$E_7 = -84.01283$ (49 mal) $\omega_1^2 = 0.80371$



$E_{40} = -77.15261$ (3 mal) $\omega_1^2 = 0.05024$

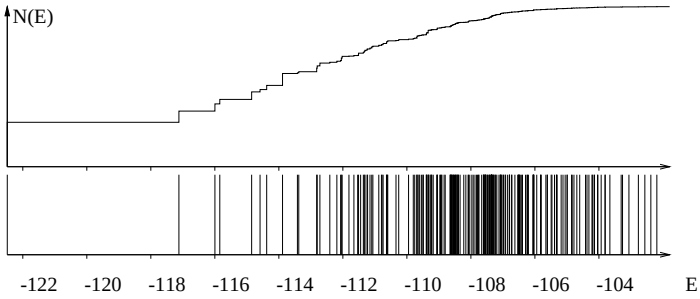


$E_{41} = -76.67196$ (1 mal) $\omega_1^2 = 0.13311$

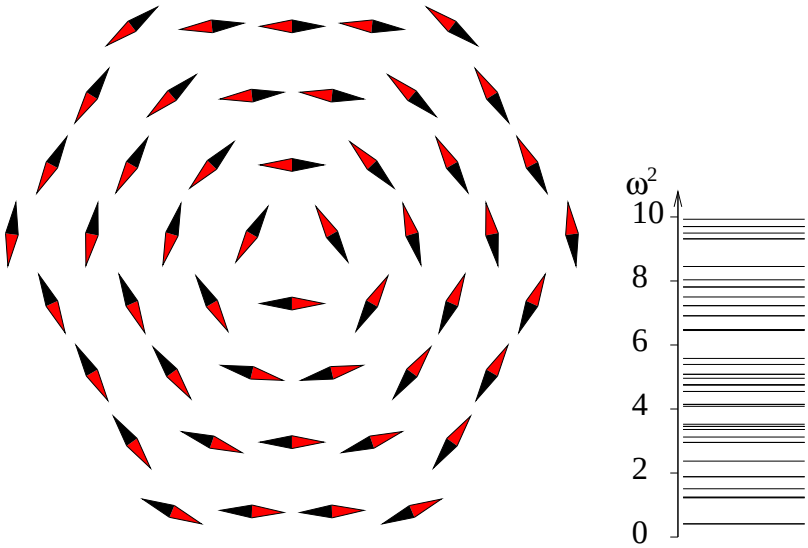


$E_{42} = -76.66101$ (1 mal) $\omega_1^2 = 0.14233$

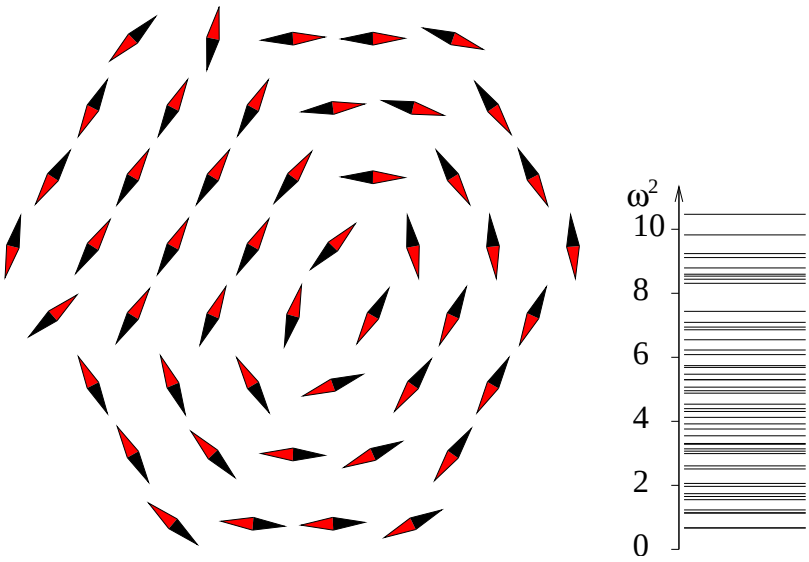
Dreiecks-Gitter (4,3)



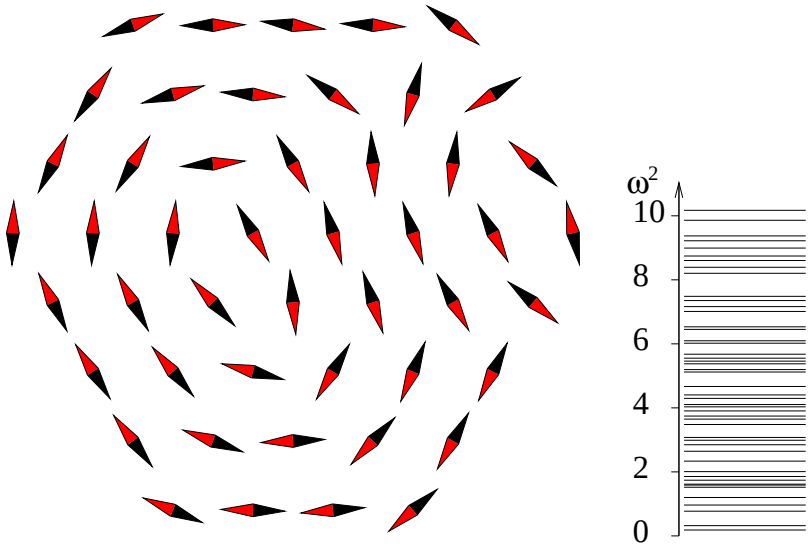
Anzahl Gitterpunkte: 48, Gefundene Energie-Niveaus: 215, Läufe: 3000



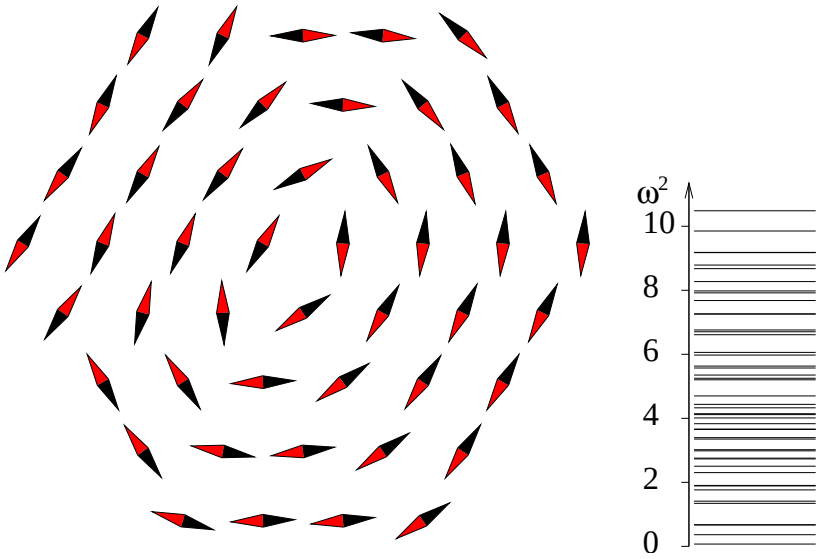
$E_1 = -122.48583$ (832 mal) $\omega_1^2 = 0.41321$



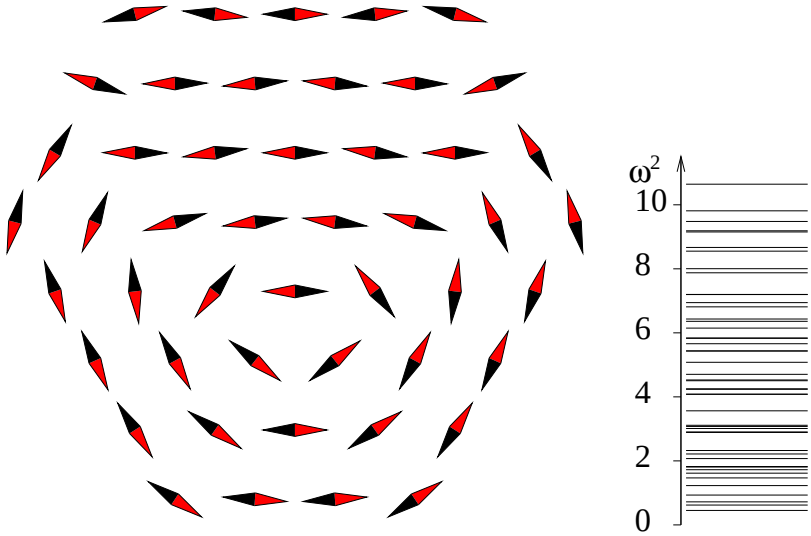
$E_2 = -117.12263$ (210 mal) $\omega_1^2 = 0.66852$



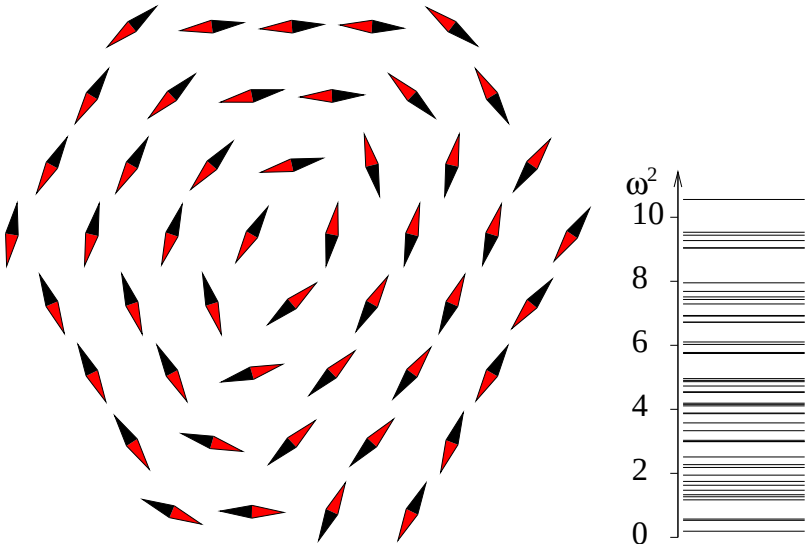
$E_3 = -115.99729$ (135 mal) $\omega_1^2 = 0.18575$



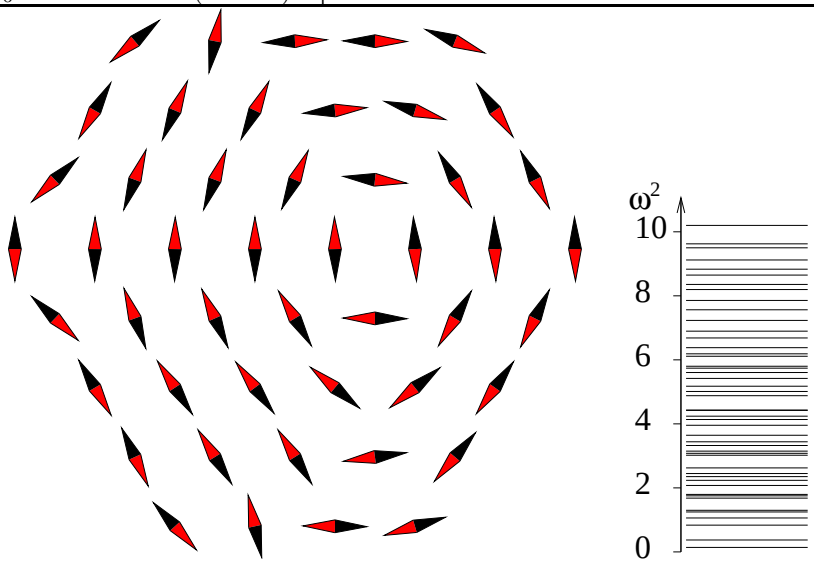
$E_4 = -115.84545$ (84 mal) $\omega_1^2 = 0.07066$



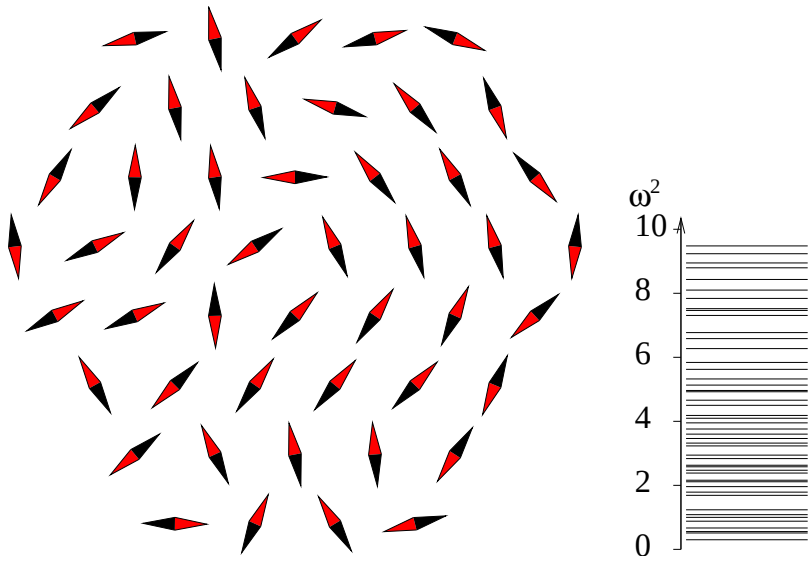
$E_5 = -114.84961$ (142 mal) $\omega_1^2 = 0.45237$



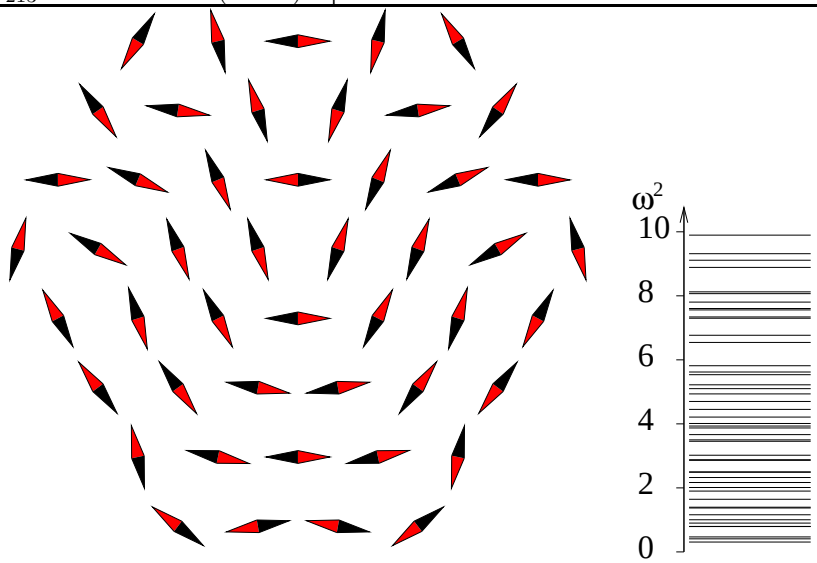
$E_6 = -114.58952$ (43 mal) $\omega_1^2 = 0.19264$



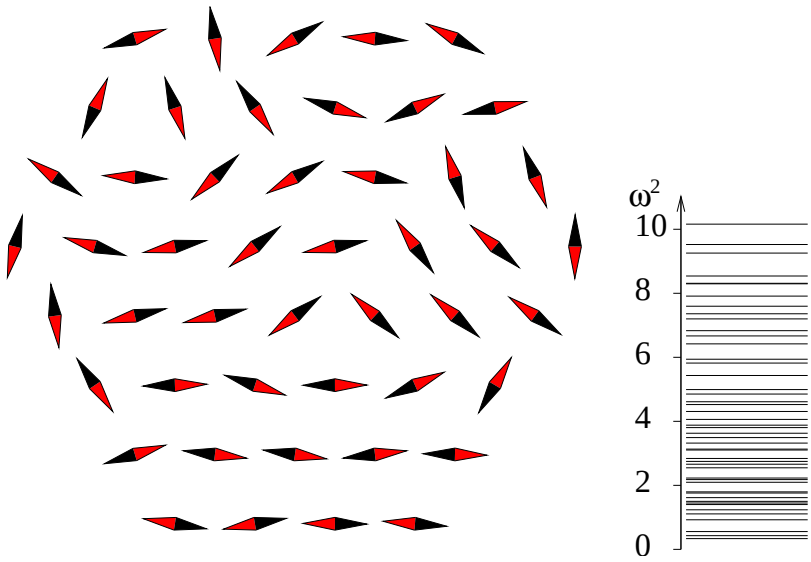
$E_8 = -113.88641$ (224 mal) $\omega_1^2 = 0.13919$



$E_{213} = -102.56536$ (1 mal) $\omega_1^2 = 0.30123$

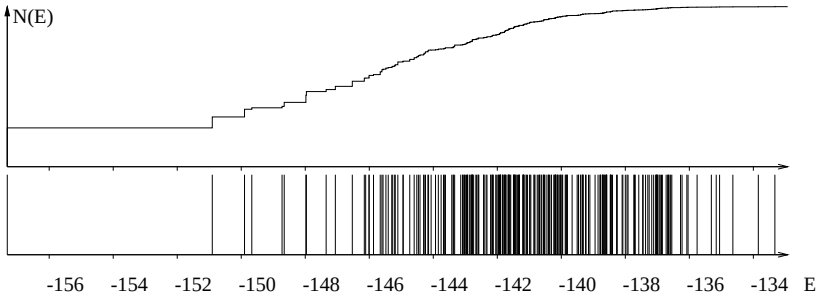


$E_{214} = -102.37782$ (1 mal) $\omega_1^2 = 0.30602$

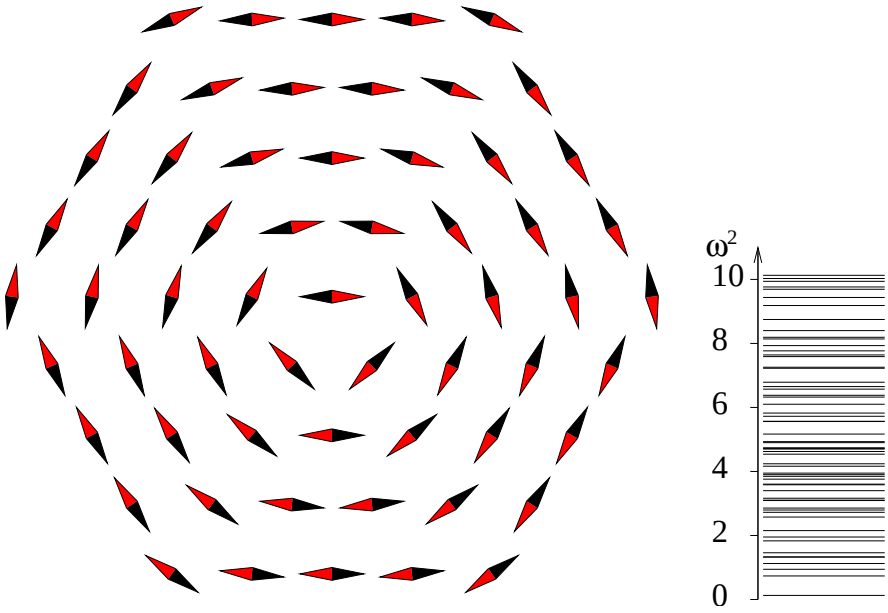


$E_{215} = -102.19107$ (1 mal) $\omega_1^2 = 0.33492$

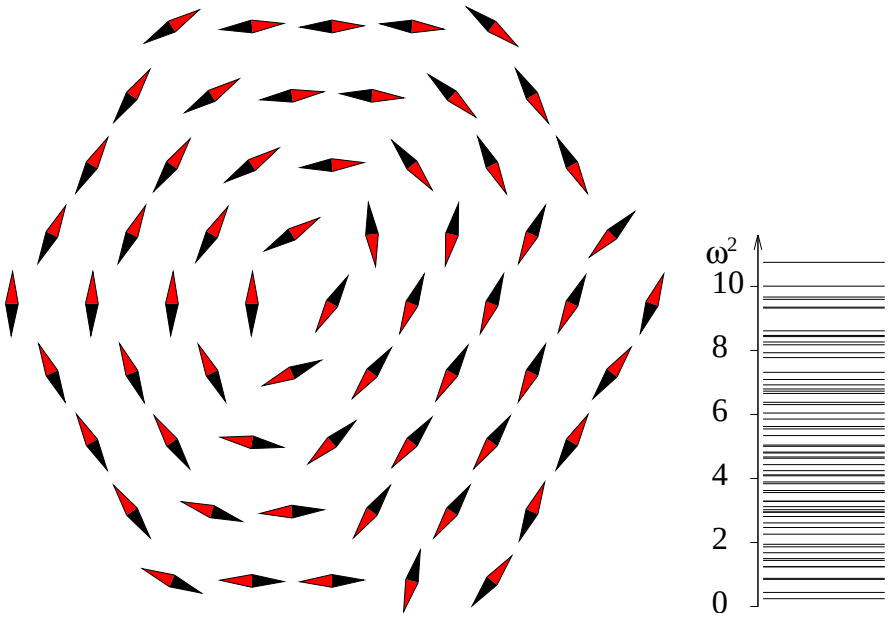
Dreiecks-Gitter (4,4)



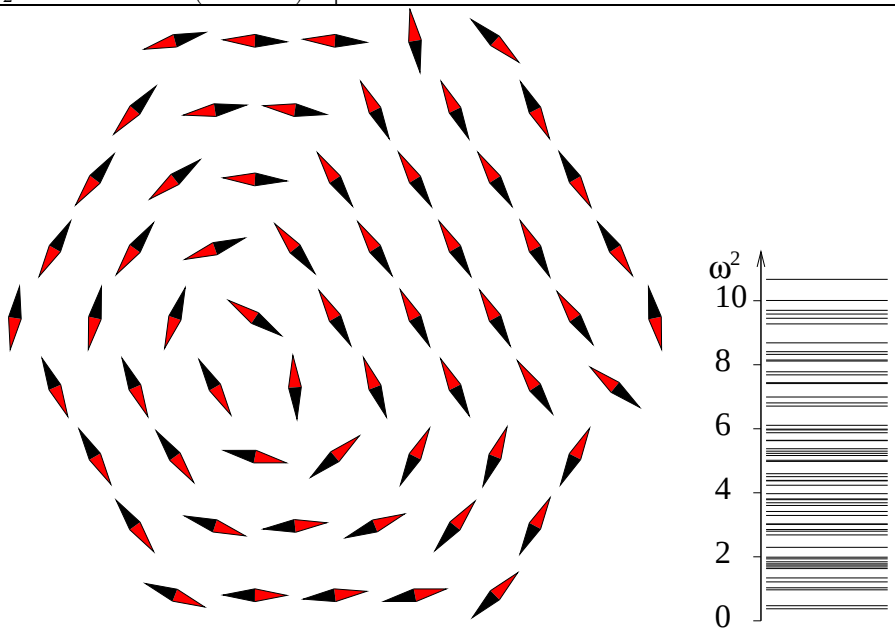
Anzahl Gitterpunkte: 61, Gefundene Energie-Niveaus: 258, Läufe: 2000



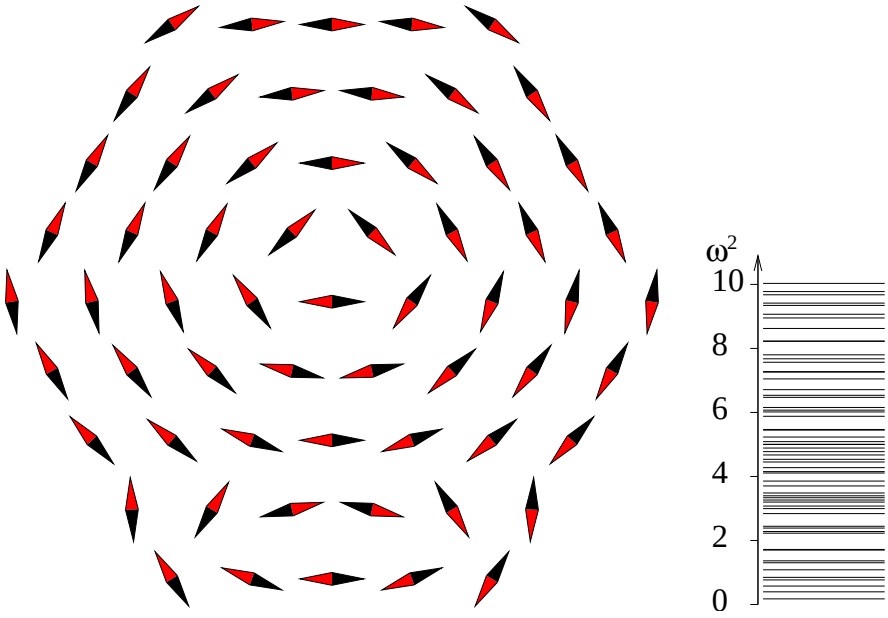
$E_1 = -157.30959$ (485 mal) $\omega_1^2 = 0.12609$



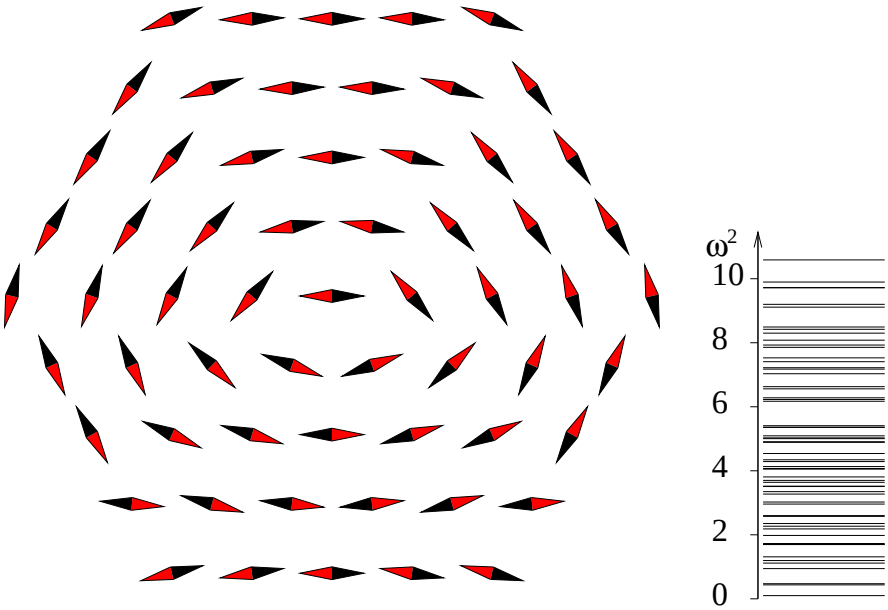
$E_2 = -150.90512$ (137 mal) $\omega_1^2 = 0.24244$



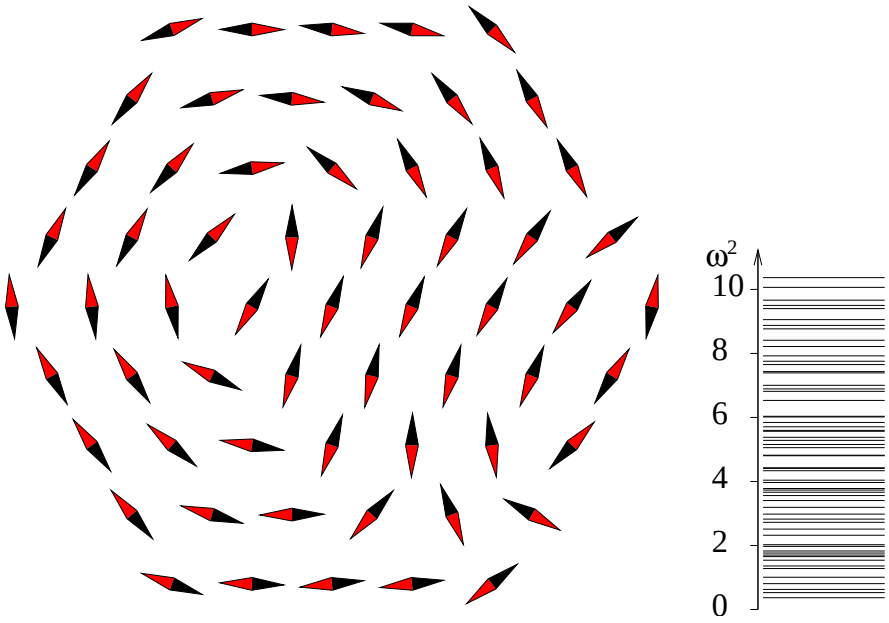
$E_3 = -149.89750$ (96 mal) $\omega_1^2 = 0.37504$



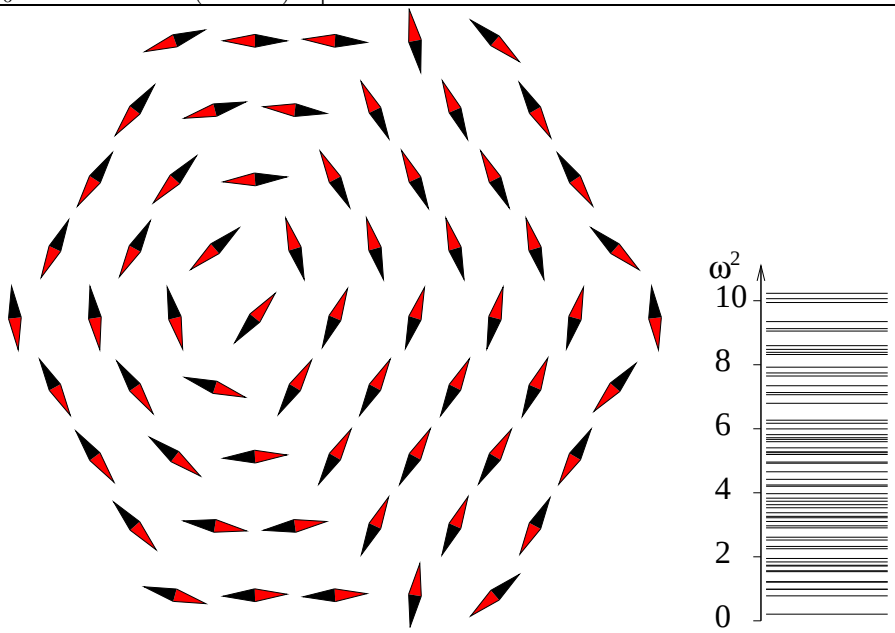
$E_4 = -149.67025$ (18 mal) $\omega_1^2 = 0.17560$



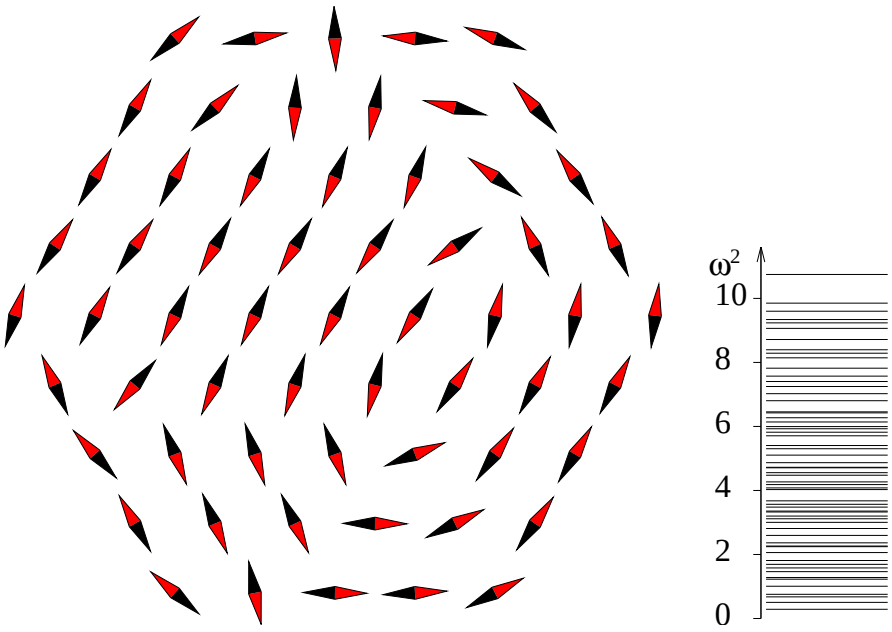
$E_5 = -148.72442$ (18 mal) $\omega_1^2 = 0.10127$



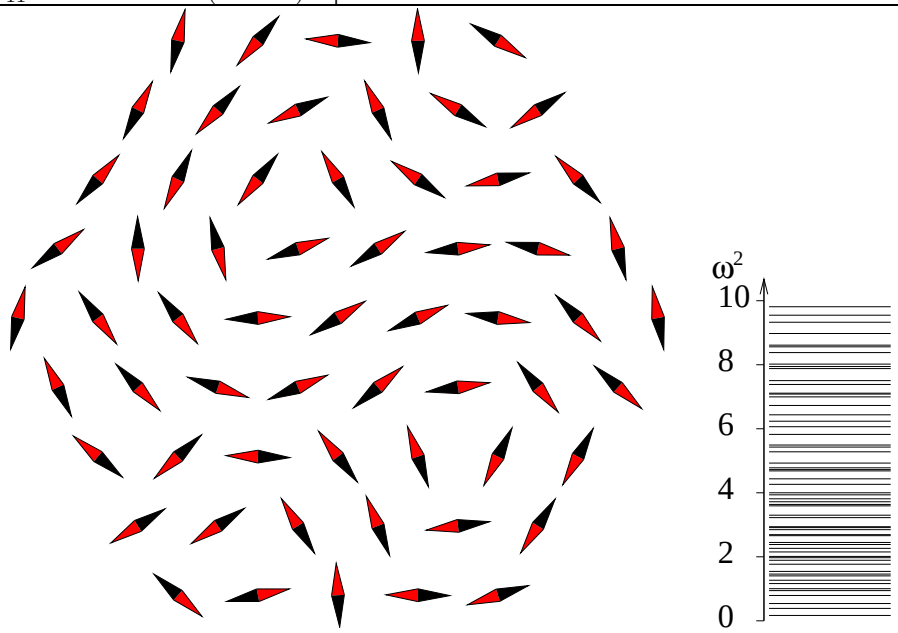
$E_6 = -148.65806$ (50 mal) $\omega_1^2 = 0.36940$



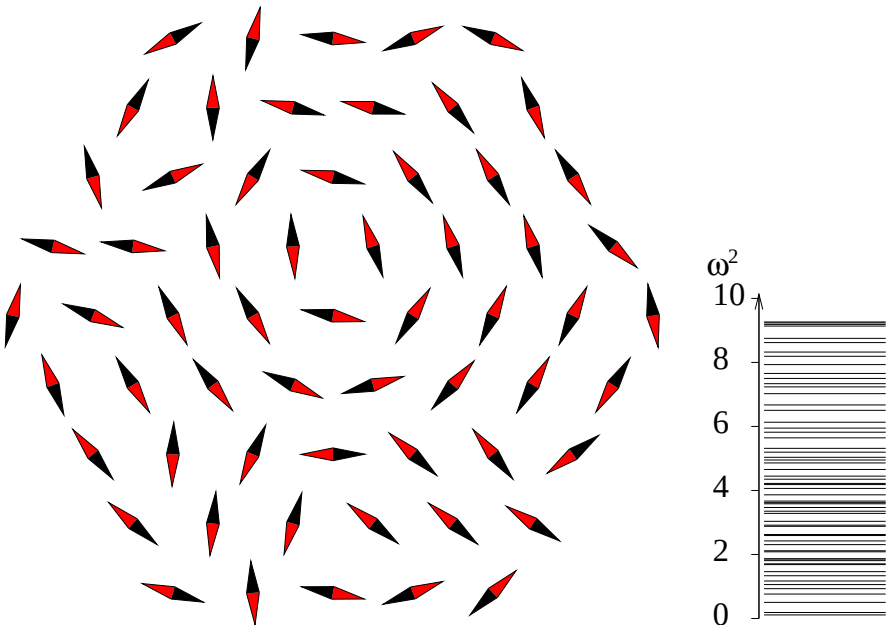
$E_7 = -147.97923$ (89 mal) $\omega_1^2 = 0.20869$



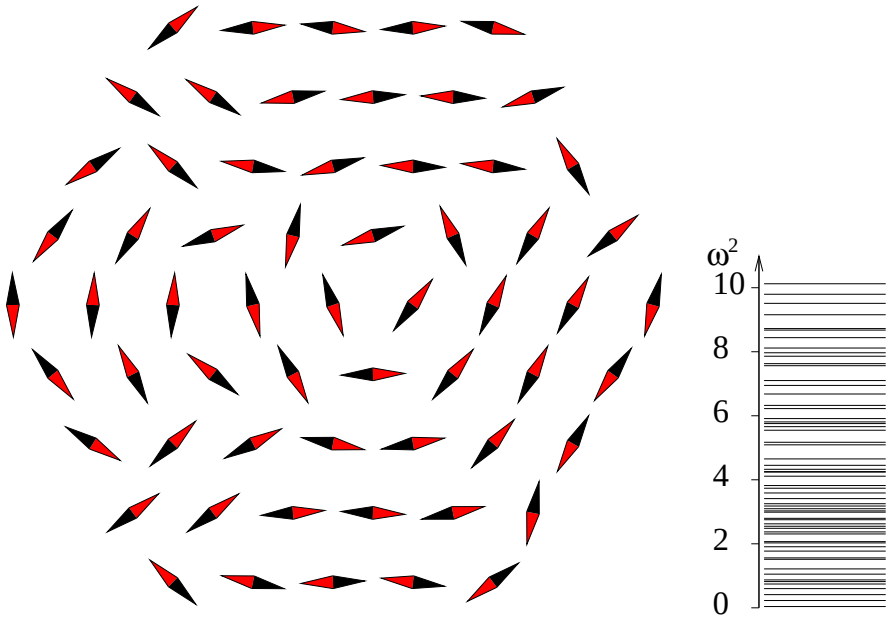
$E_{11} = -146.52876$ (64 mal) $\omega_1^2 = 0.28920$



$E_{256} = -134.63975$ (1 mal) $\omega_1^2 = 0.16625$

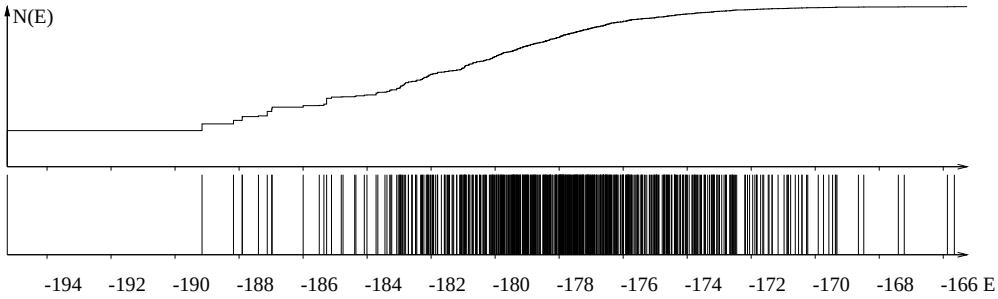


$E_{257} = -133.84418$ (1 mal) $\omega_1^2 = 0.11262$

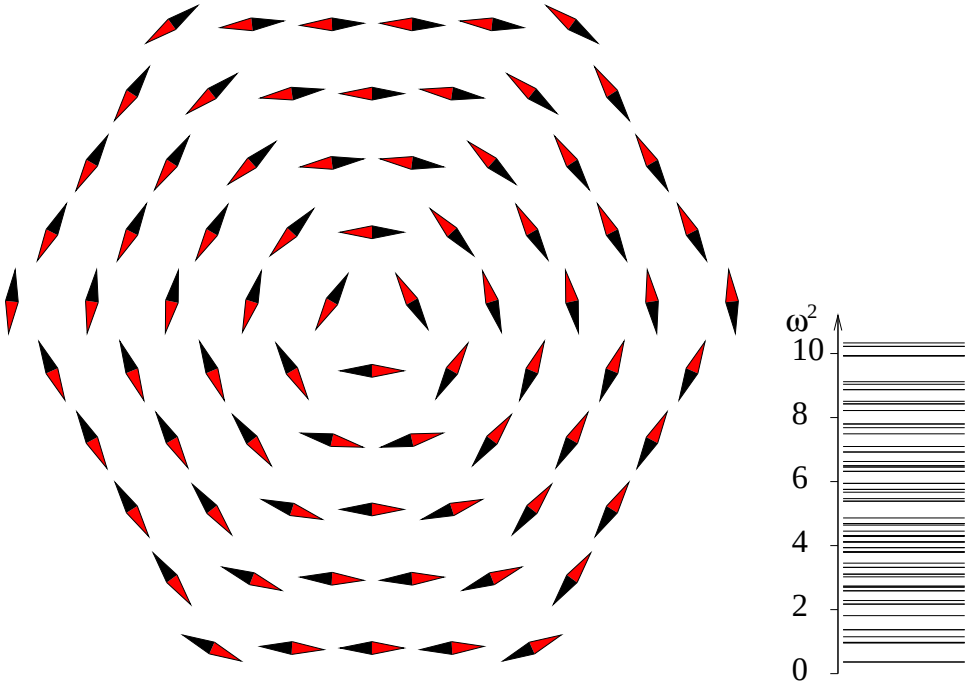


$E_{258} = -133.32817$ (1 mal) $\omega_1^2 = 0.03843$

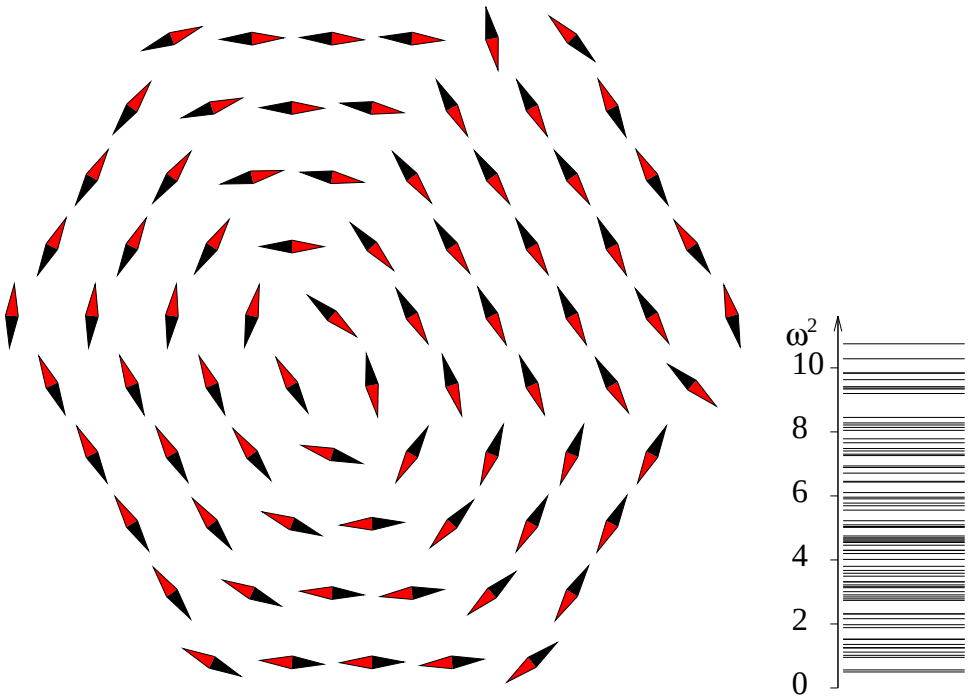
Dreiecks-Gitter (5,4)



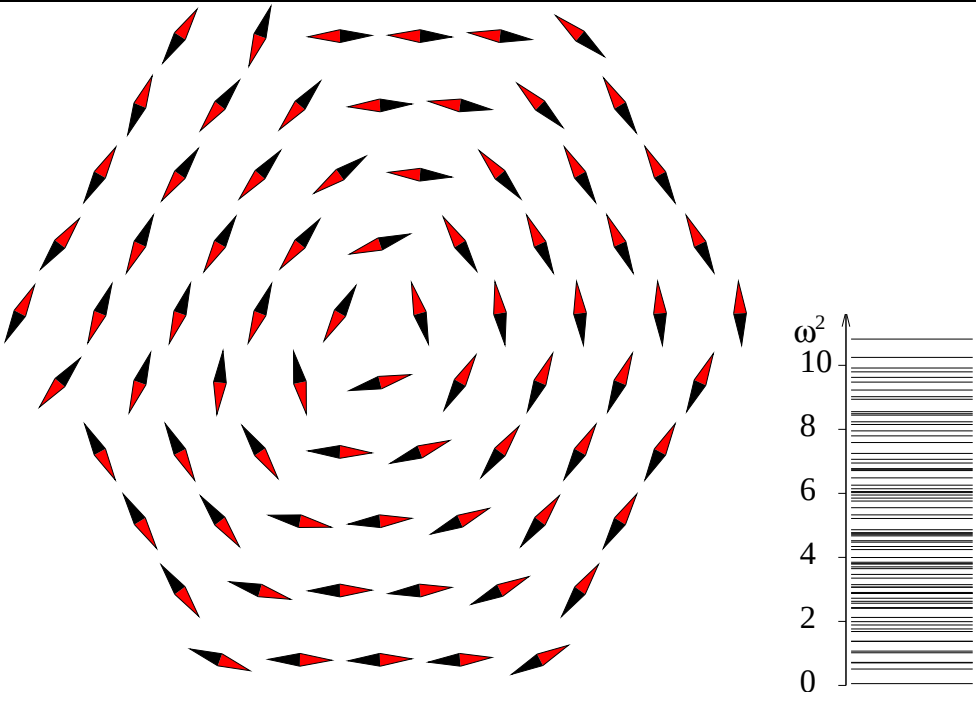
Anzahl Gitterpunkte: 75, Gefundene Energie-Niveaus: 580, Läufe: 2000



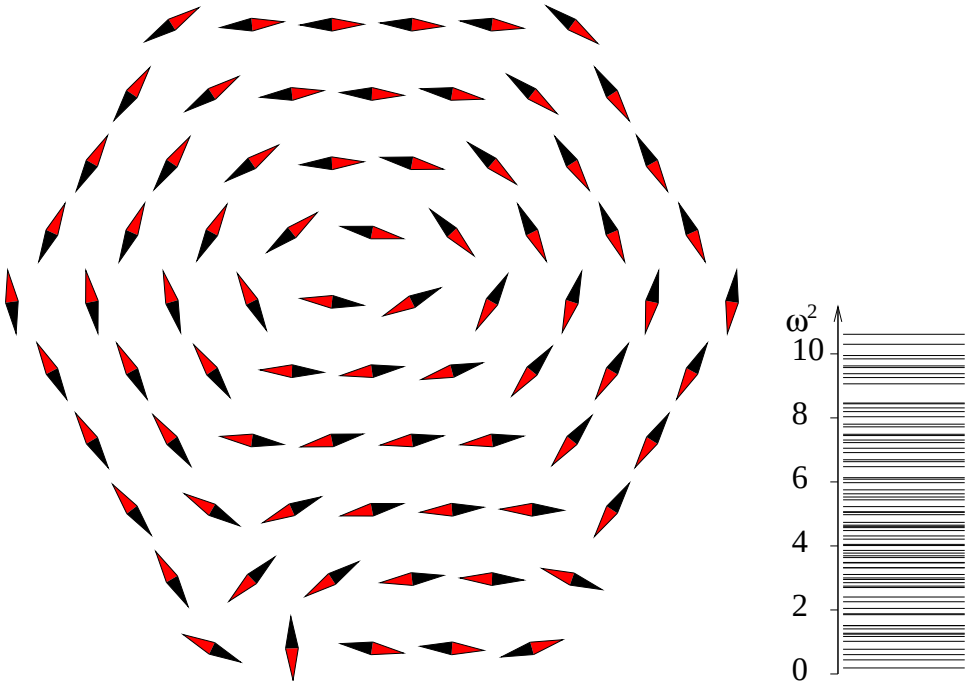
$E_1 = -195.24374$ (451 mal) $\omega_1^2 = 0.36302$



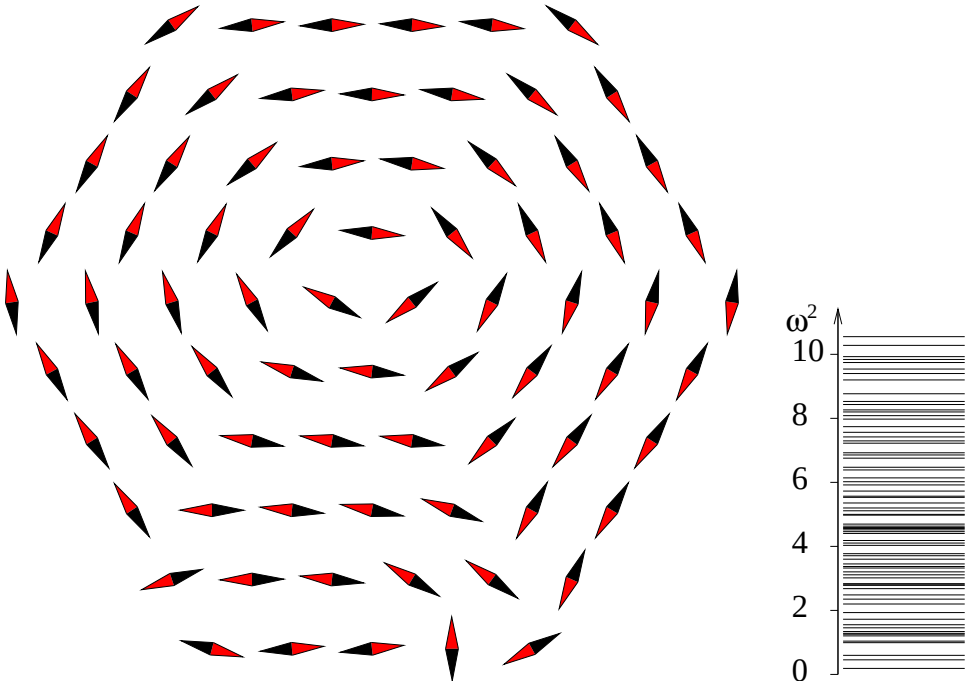
$E_2 = -189.15951$ (84 mal) $\omega_1^2 = 0.50118$



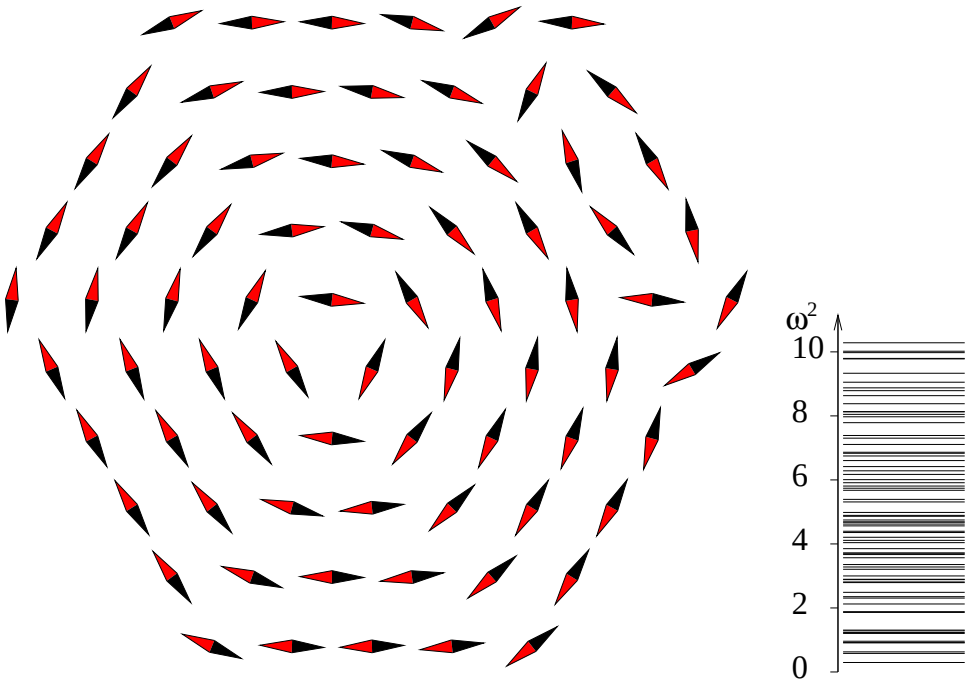
$E_3 = -188.17510$ (44 mal) $\omega_1^2 = 0.05588$



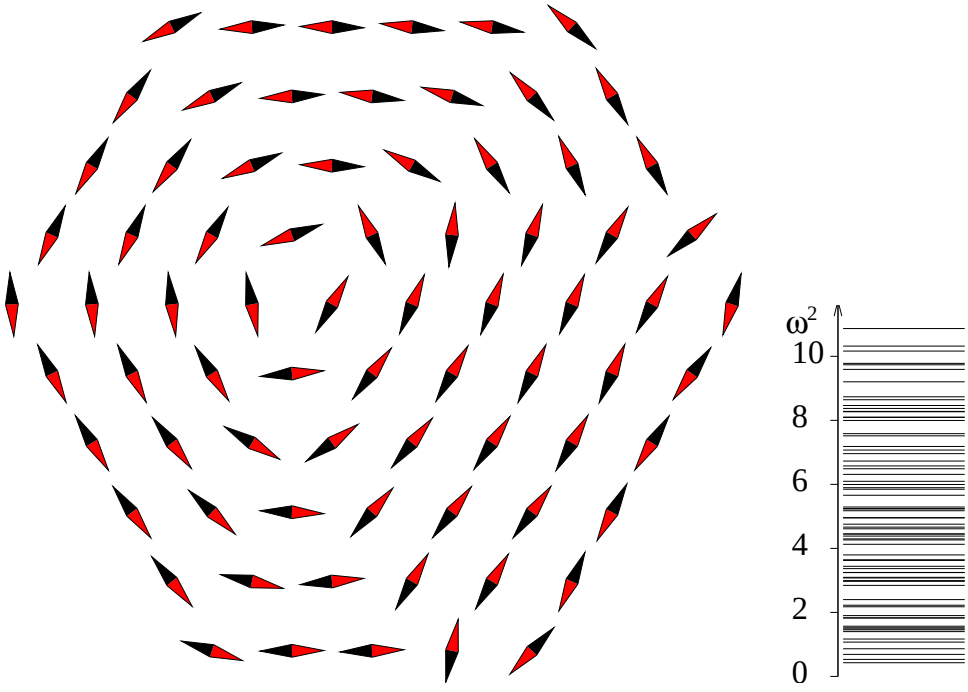
$E_4 = -187.90435$ (39 mal) $\omega_1^2 = 0.18842$



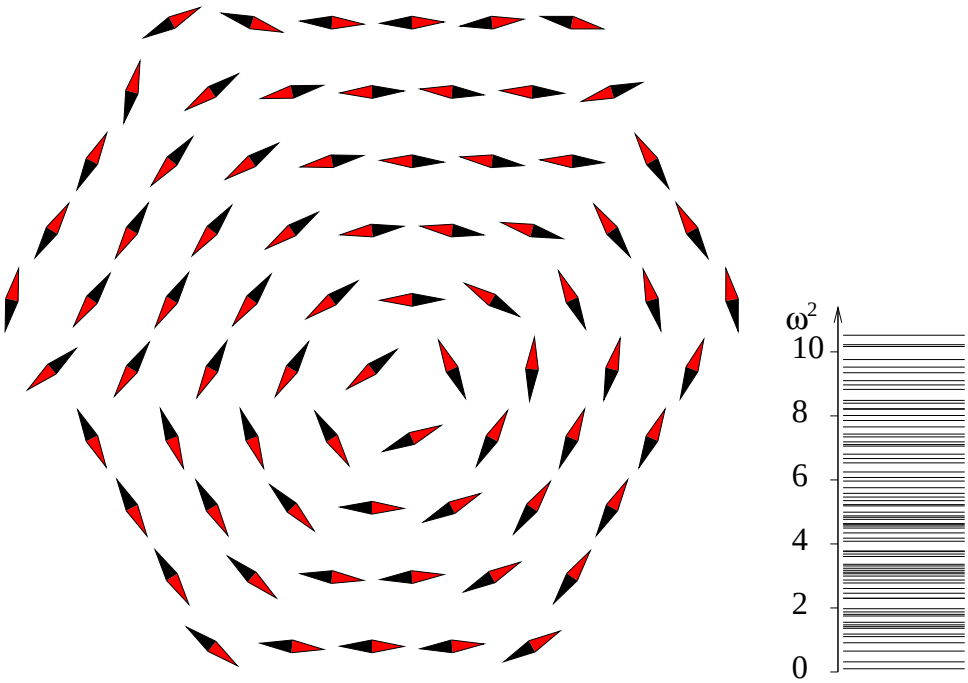
$E_5 = -187.90077$ (8 mal) $\omega_1^2 = 0.18981$



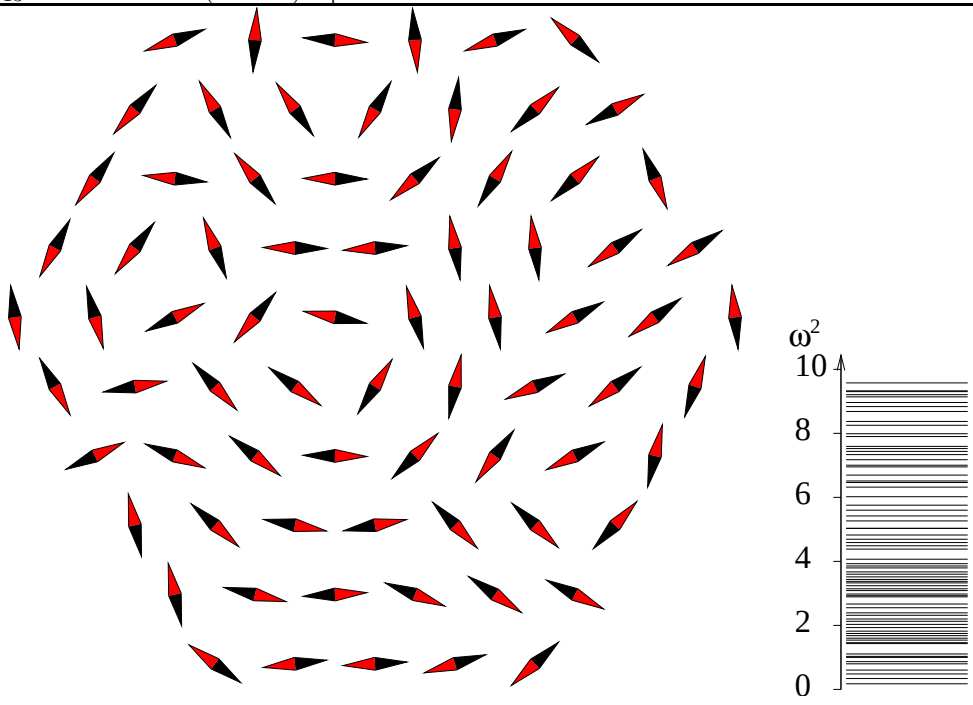
$E_6 = -187.39593$ (9 mal) $\omega_1^2 = 0.29566$



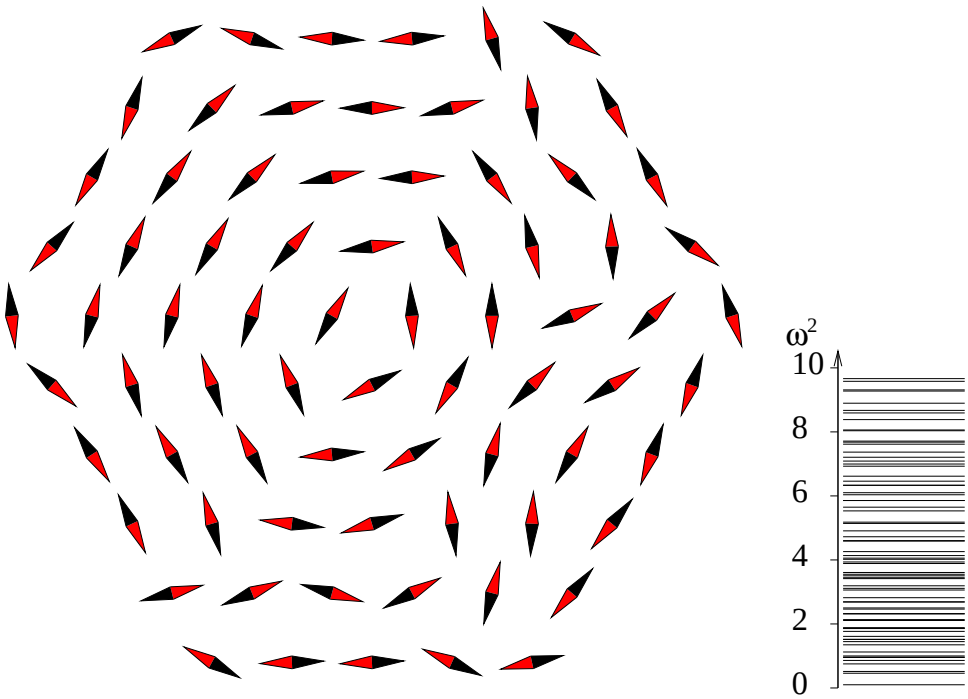
$E_7 = -187.12102$ (56 mal) $\omega_1^2 = 0.42706$



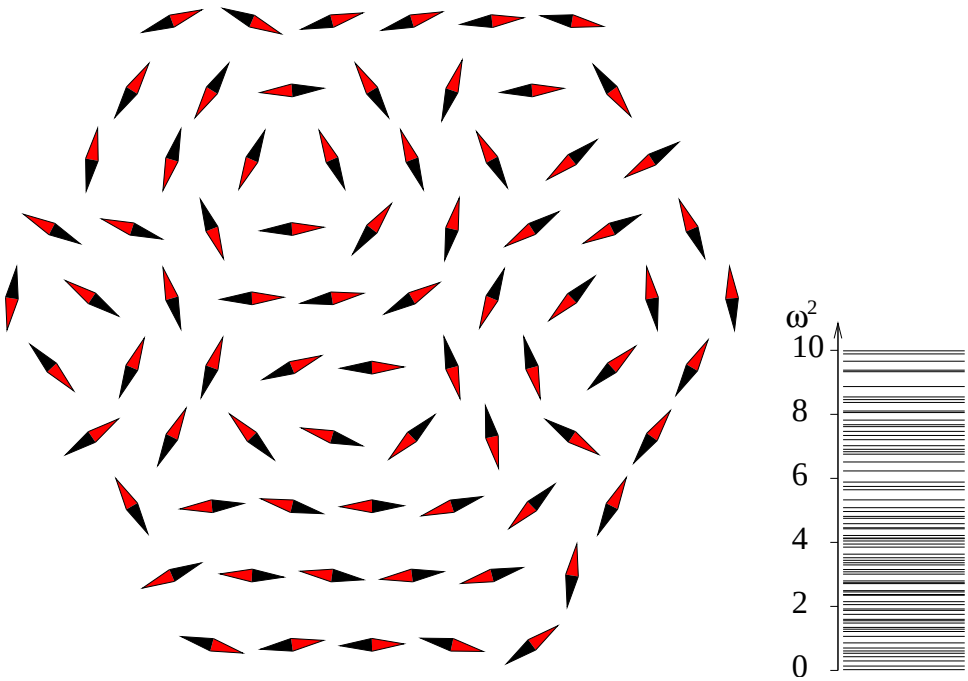
$E_{13} = -185.26744$ (73 mal) $\omega_1^2 = 0.09913$



$E_{578} = -167.21784$ (1 mal) $\omega_1^2 = 0.17707$

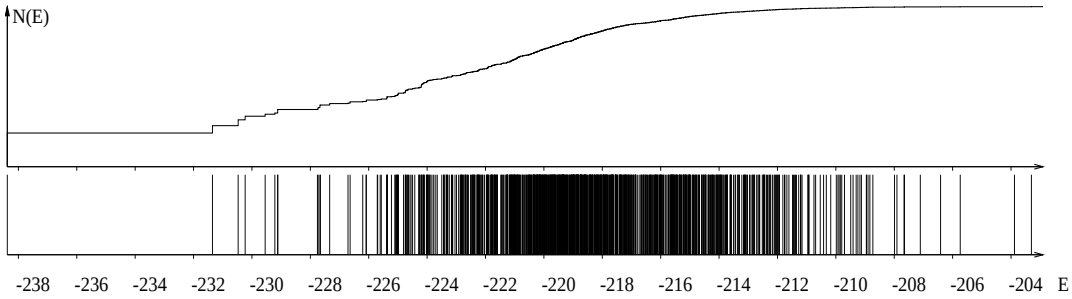


$E_{579} = -165.87058$ (1 mal) $\omega_1^2 = 0.09933$

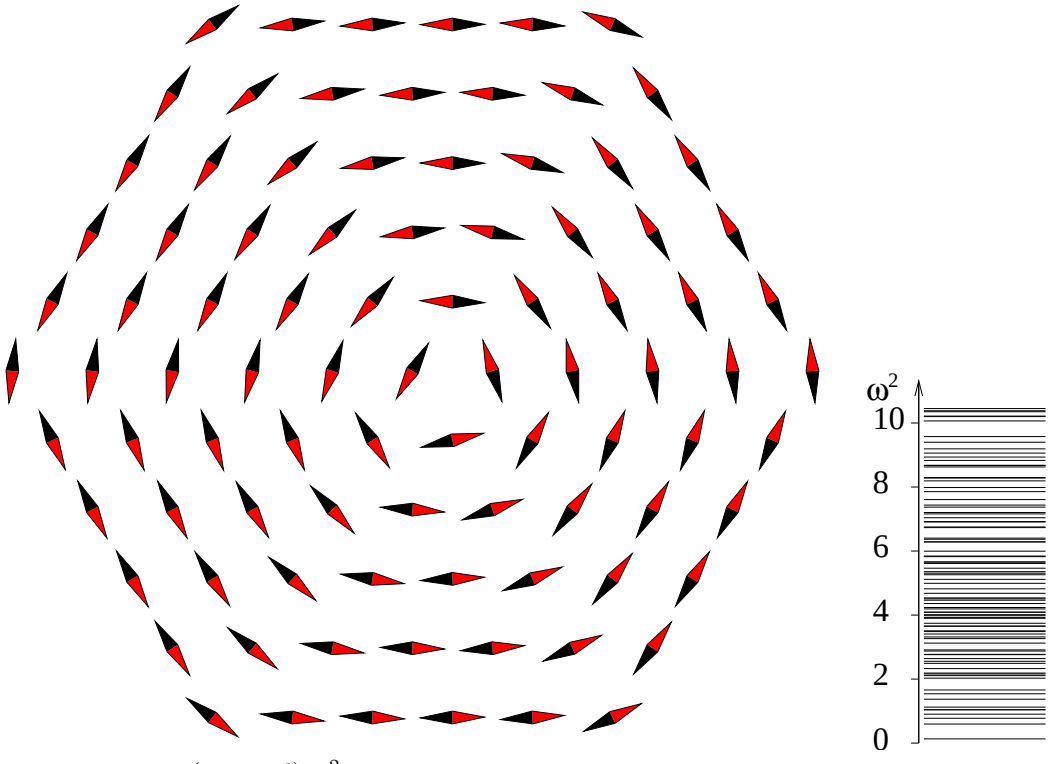


$E_{580} = -165.65434$ (1 mal) $\omega_1^2 = 0.02332$

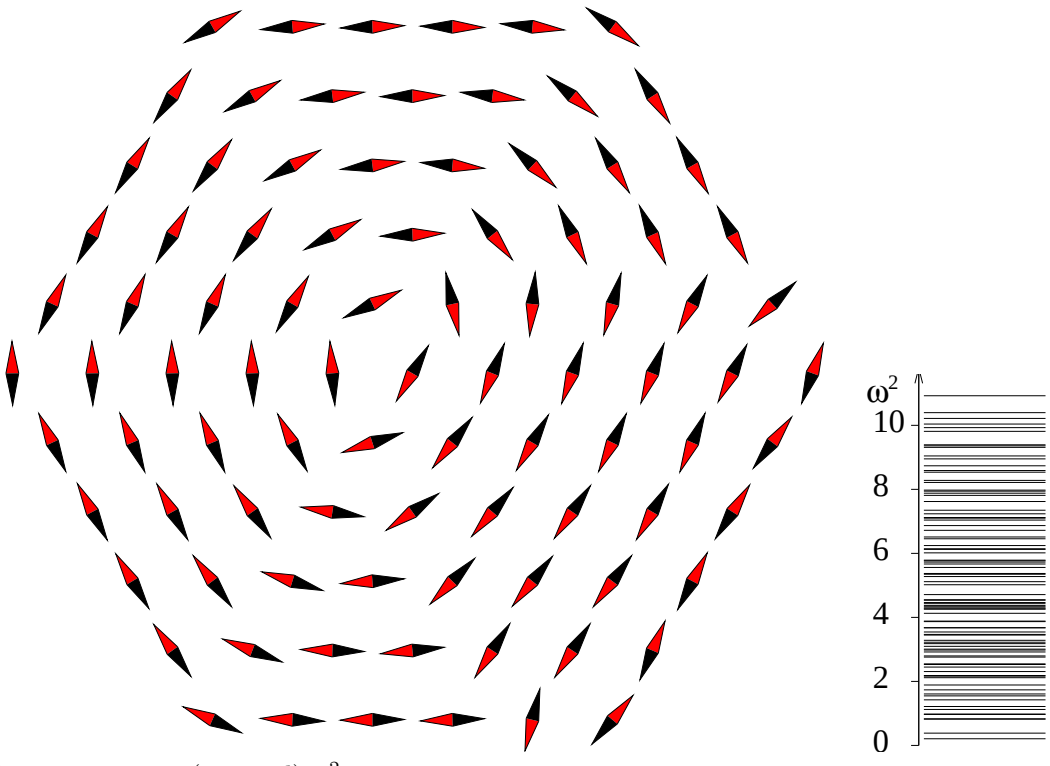
Dreiecks-Gitter (5,5)



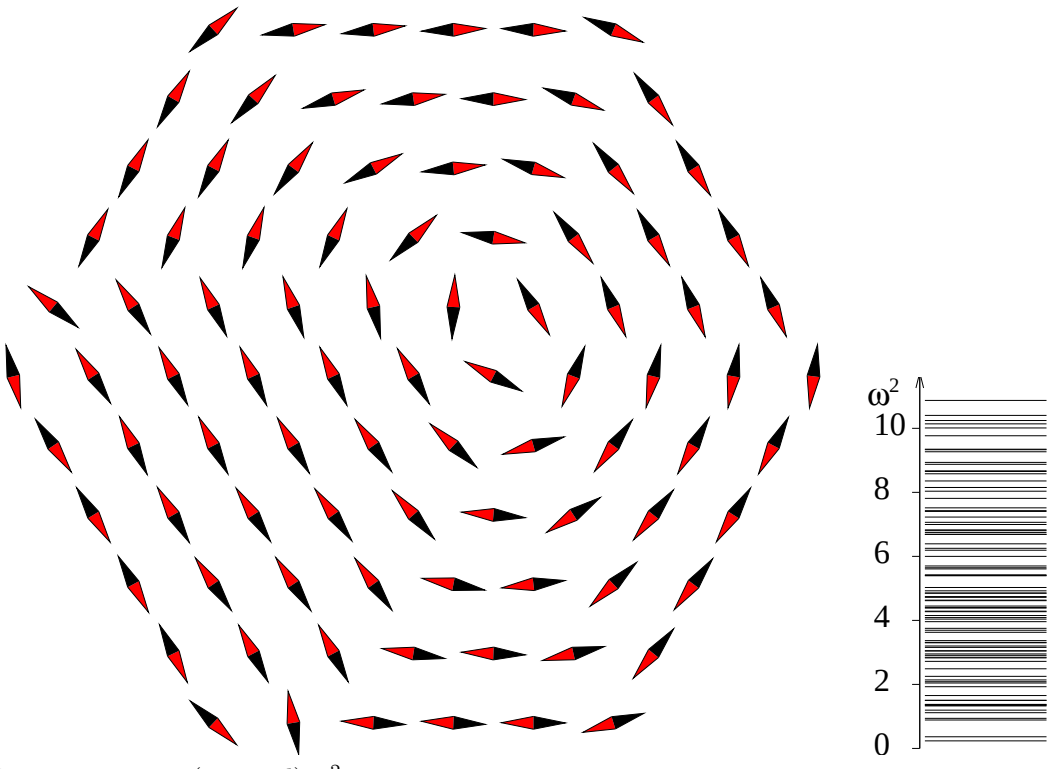
Anzahl Gitterpunkte: 91, Gefundene Energie-Niveaus: 937, Läufe: 3000



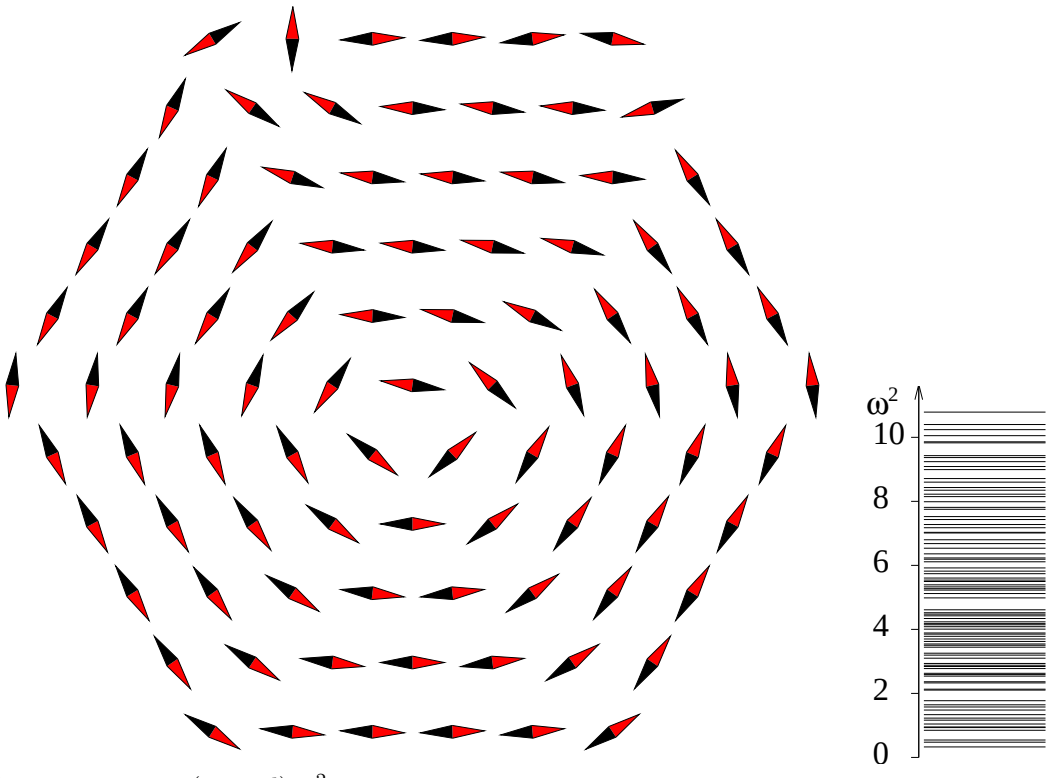
$E_1 = -238.38052$ (632 mal) $\omega_1^2 = 0.13174$



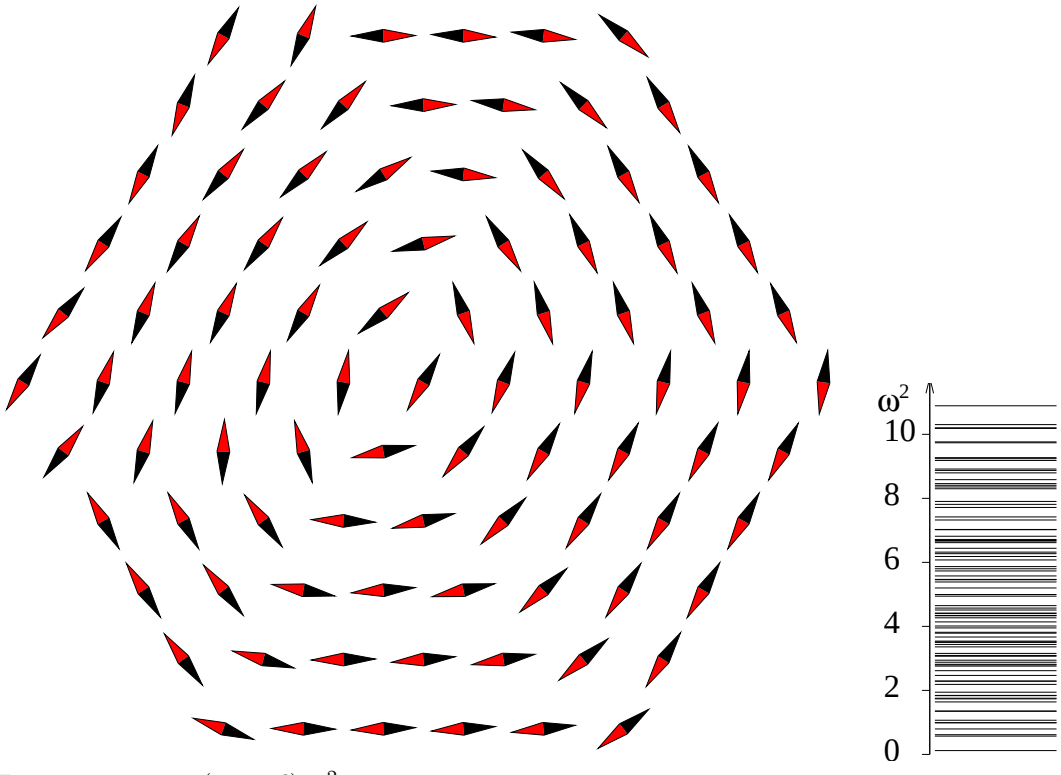
$E_2 = -231.35401$ (138 mal) $\omega_1^2 = 0.20941$



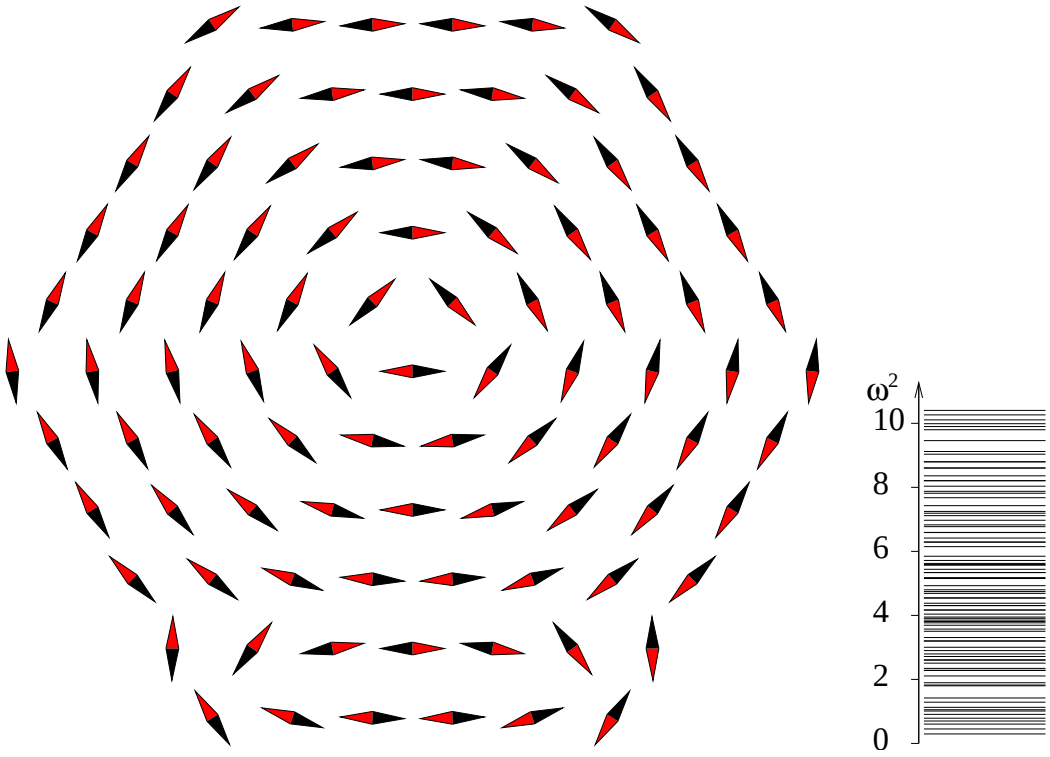
$E_3 = -230.47318$ (109 mal) $\omega_1^2 = 0.23567$



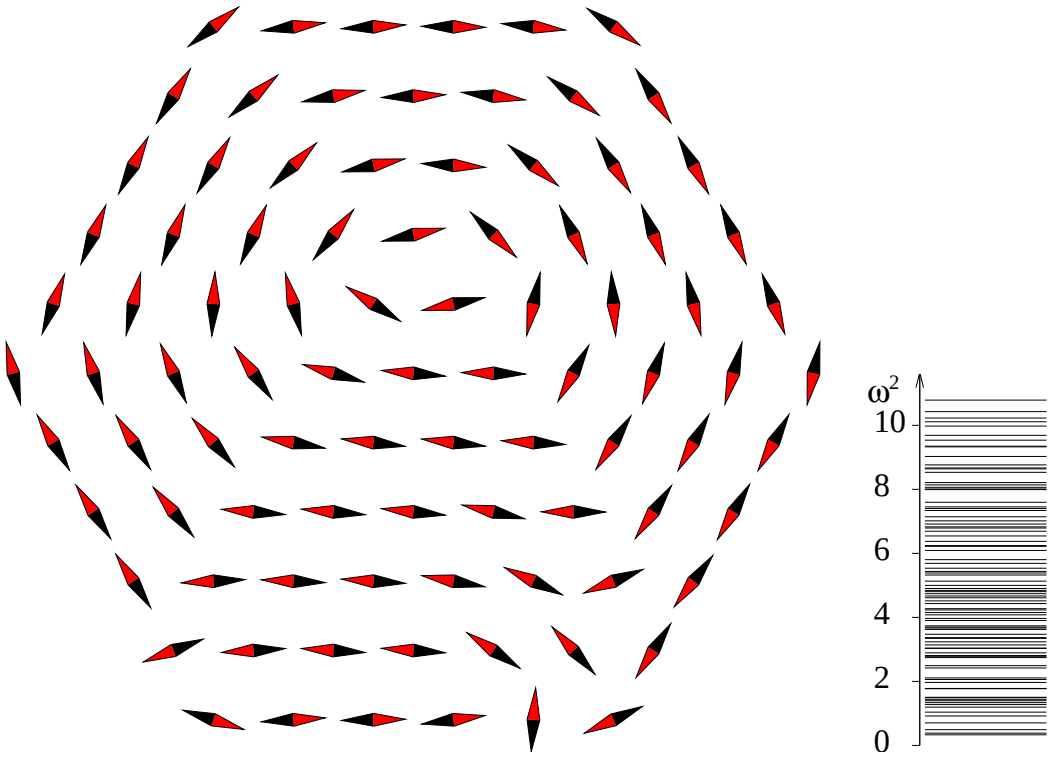
$E_4 = -230.23233$ (67 mal) $\omega_1^2 = 0.32615$



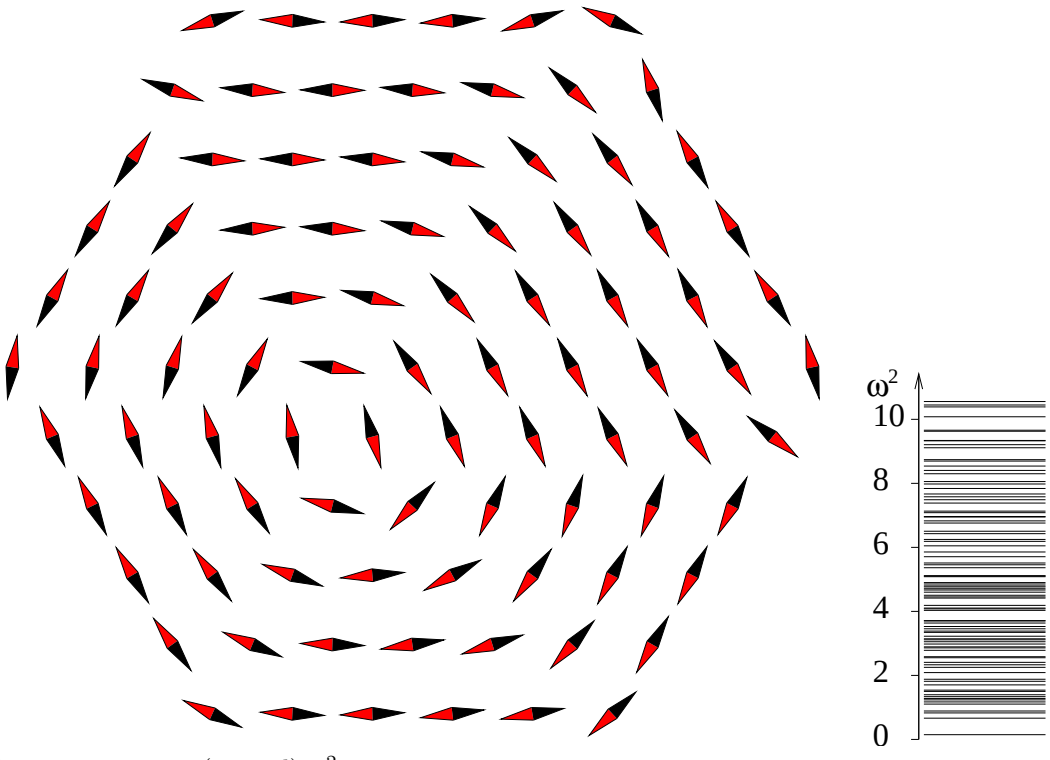
$E_5 = -229.54910$ (38 mal) $\omega_1^2 = 0.11871$



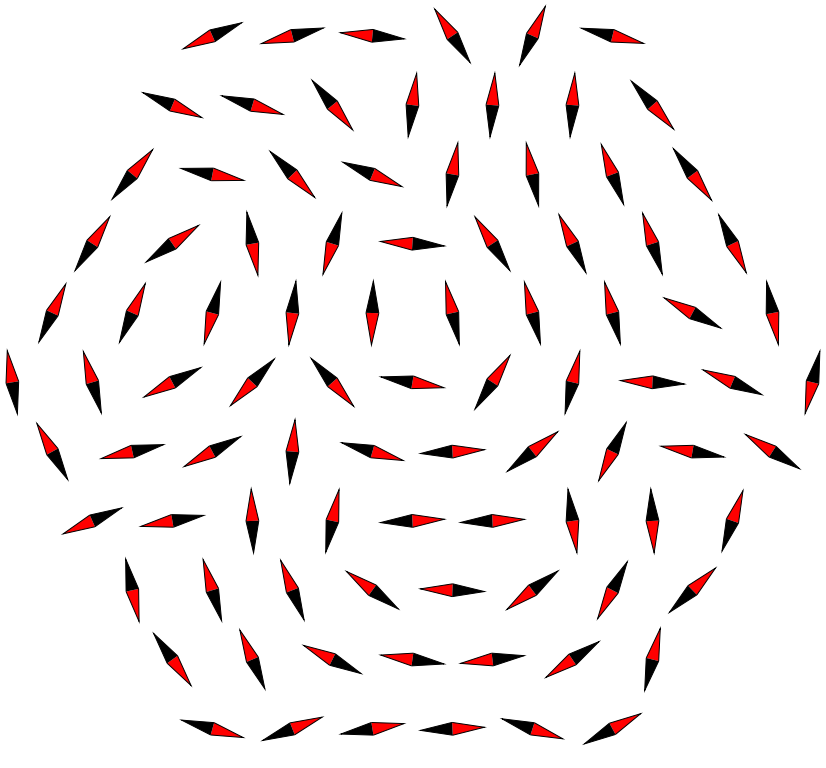
$E_6 = -229.21645$ (23 mal) $\omega_1^2 = 0.29562$



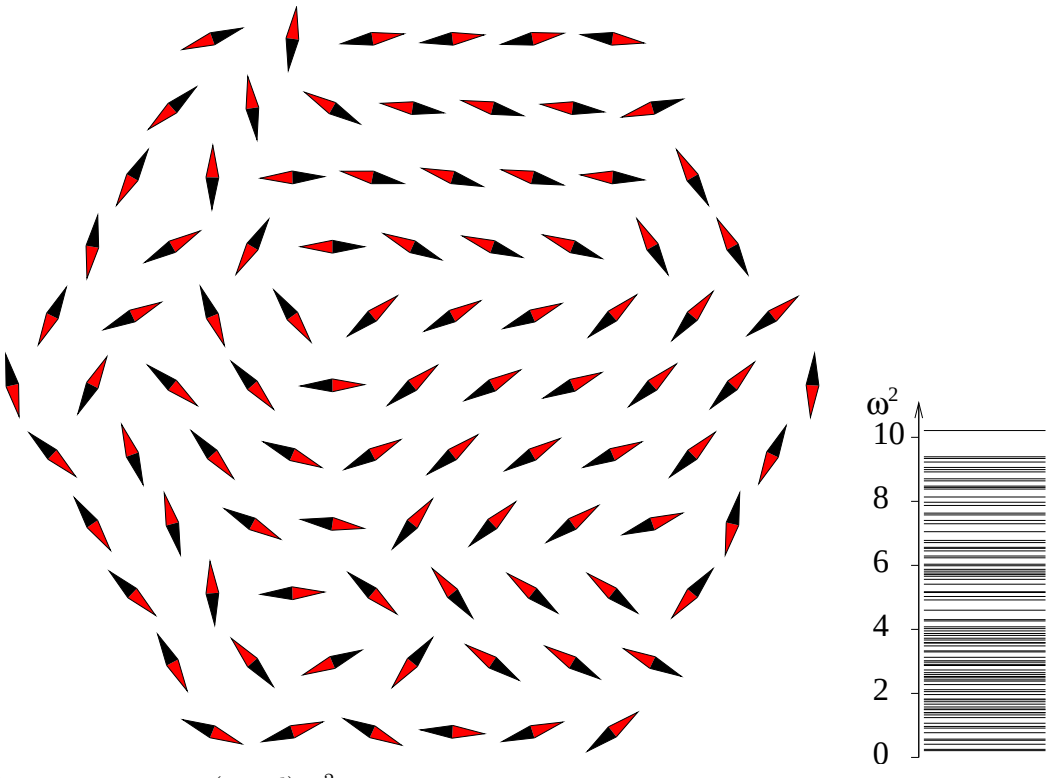
$E_7 = -229.11776$ (63 mal) $\omega_1^2 = 0.33015$



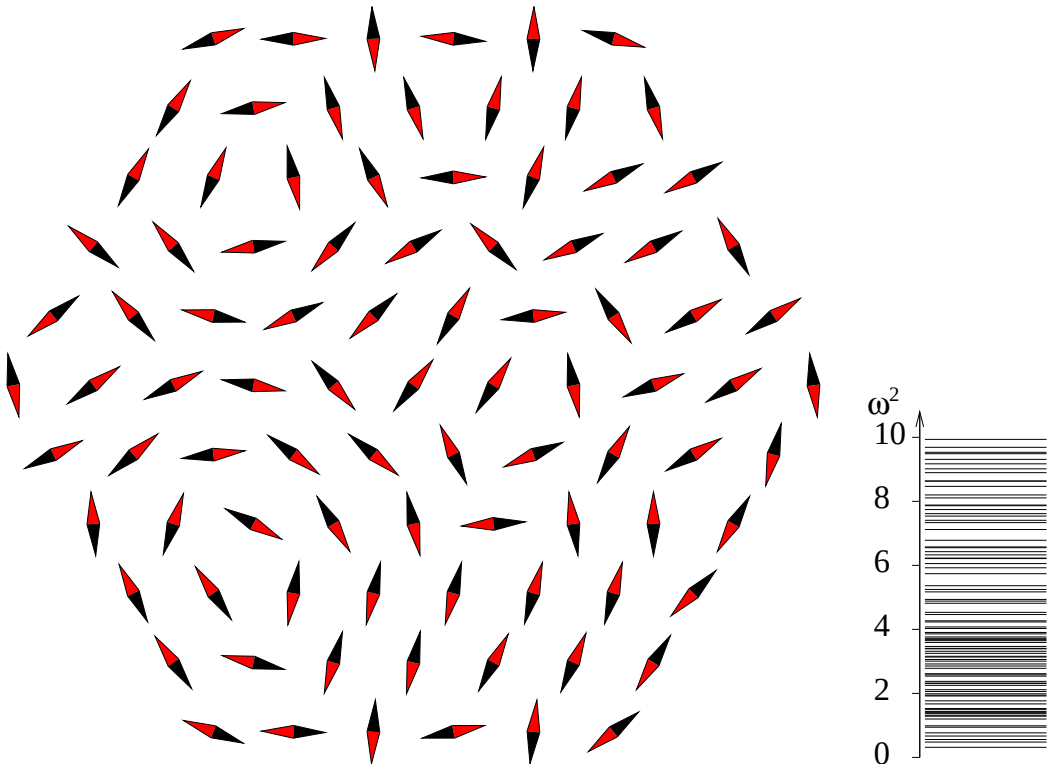
$E_{11} = -227.67396$ (47 mal) $\omega_1^2 = 0.14643$



$E_{935} = -205.74005$ (1 mal) $\omega_1^2 = 0.12019$

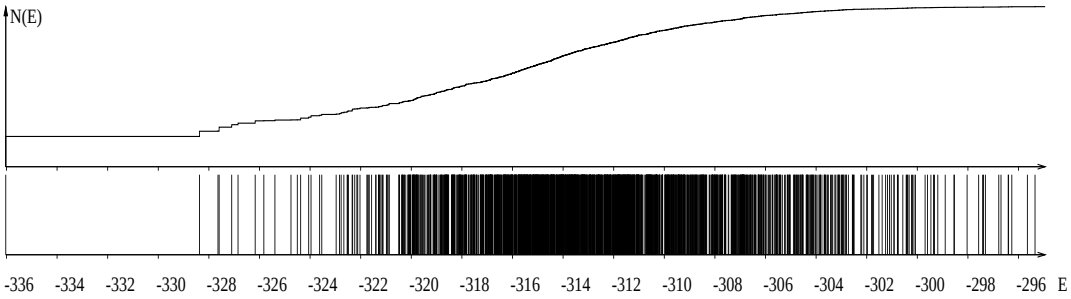


$E_{936} = -203.88312$ (1 mal) $\omega_1^2 = 0.21021$

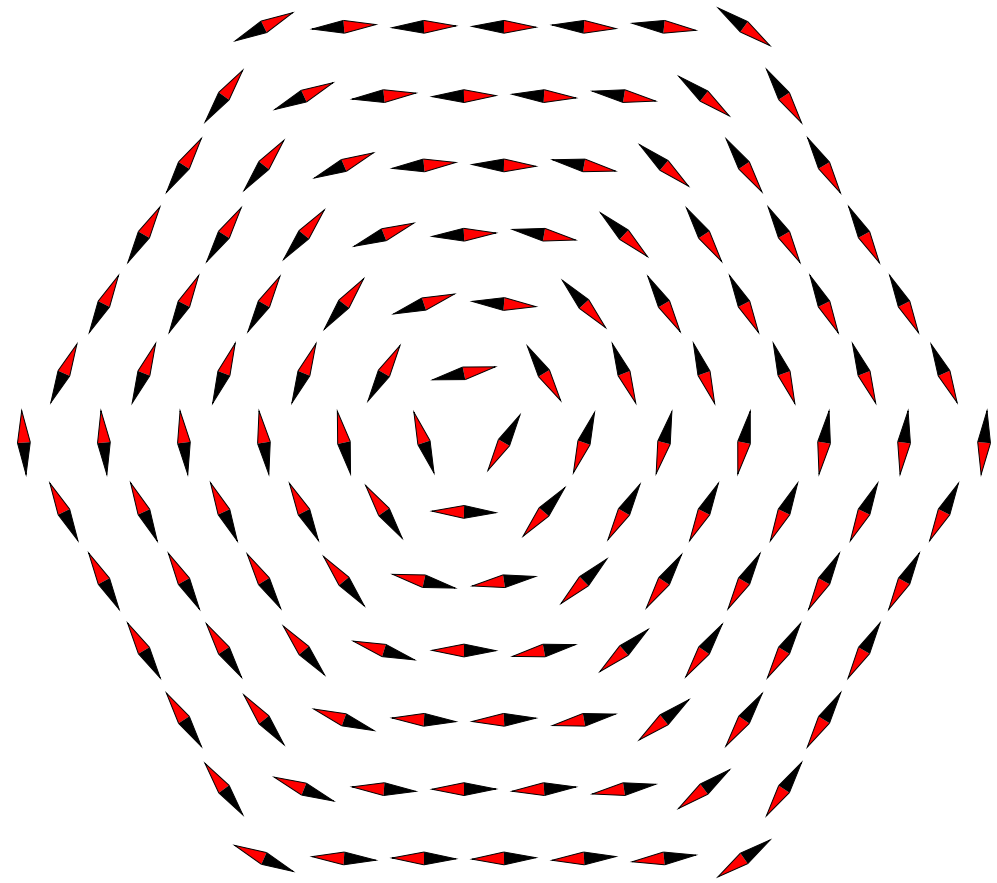


$E_{937} = -203.30286$ (1 mal) $\omega_1^2 = 0.31686$

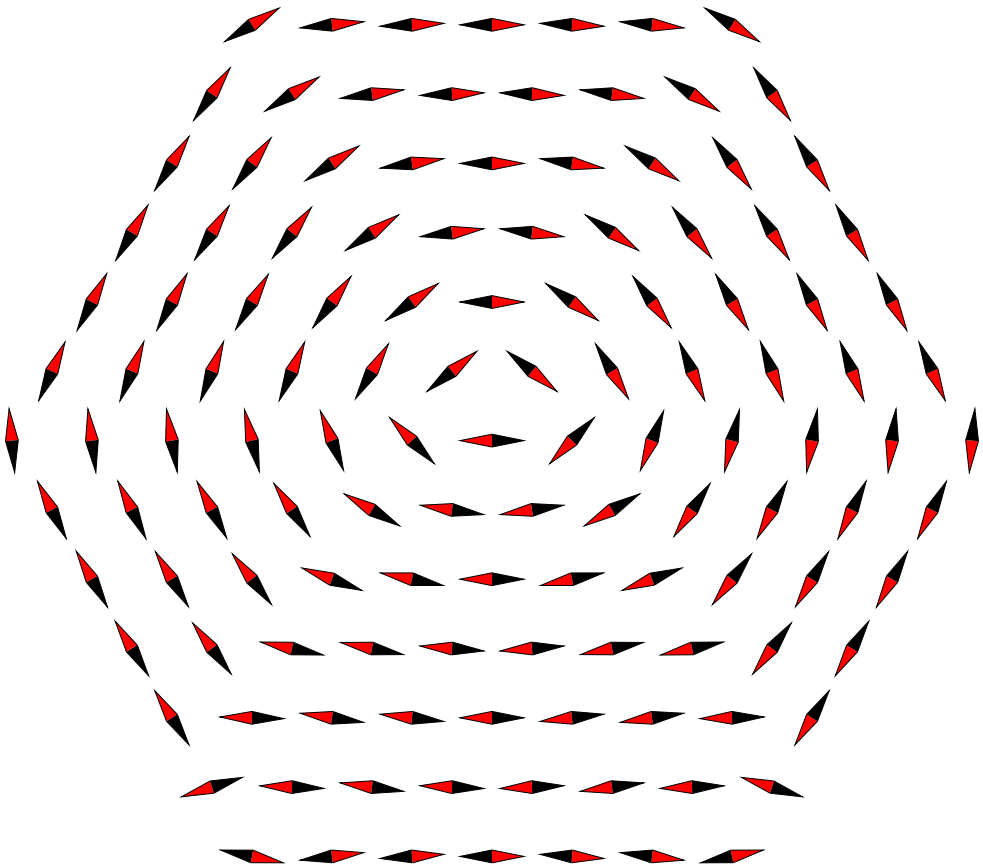
Dreiecks-Gitter (6,6)

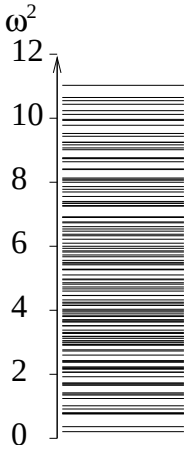


Anzahl Gitterpunkte: 127, Gefundene Energie-Niveaus: 1496, Läufe: 3000

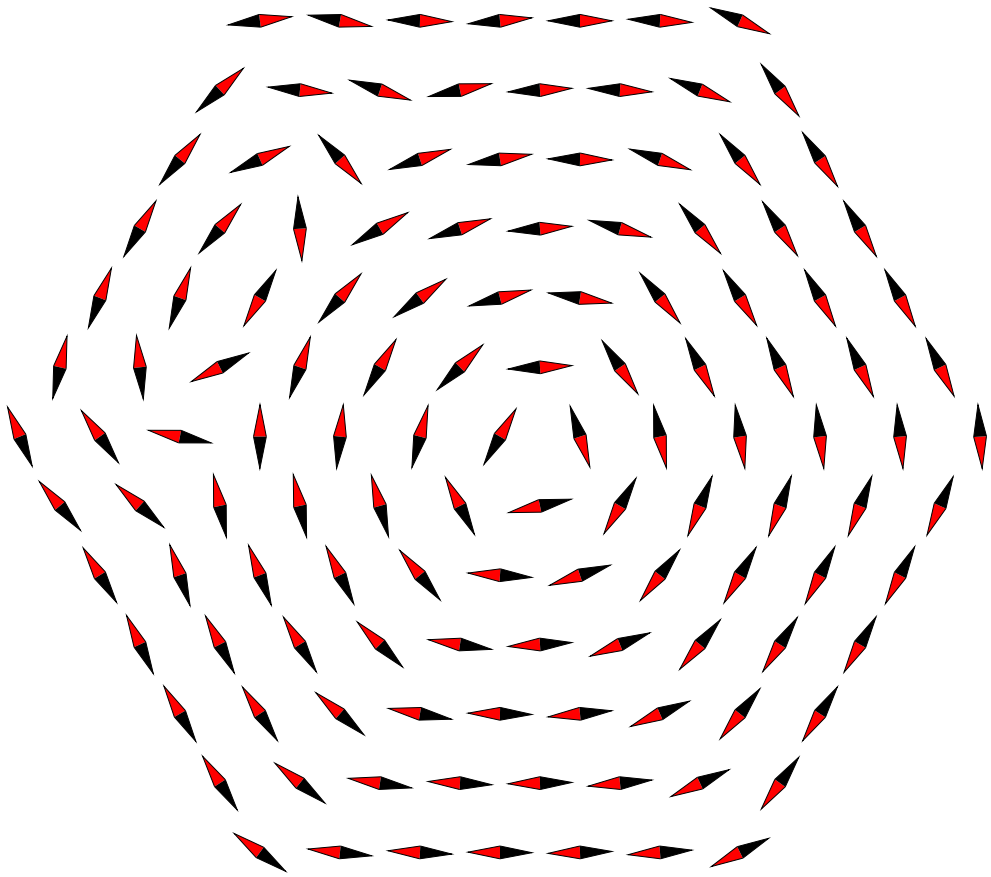


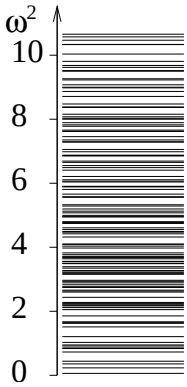
$E_1 = -336.02646$ (567 mal) $\omega_1^2 = 0.13461$



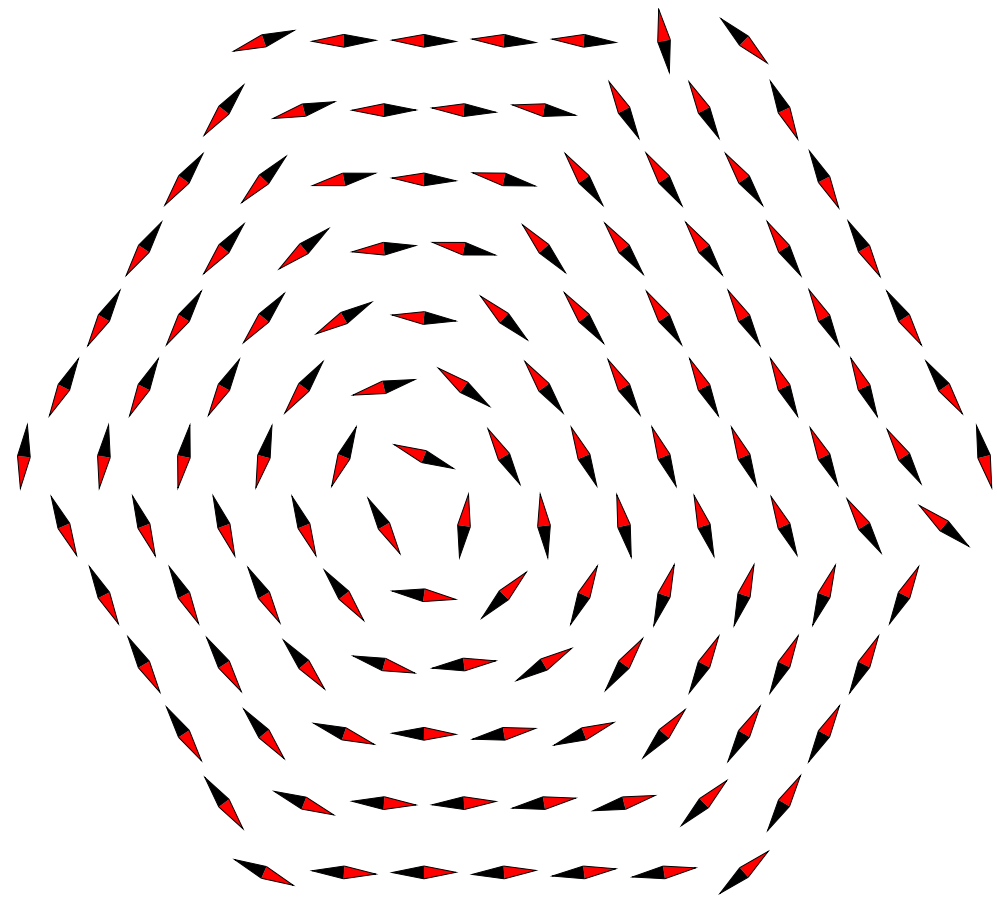


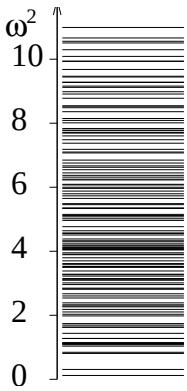
$E_2 = -328.36867$ (98 mal) $\omega_1^2 = 0.20641$



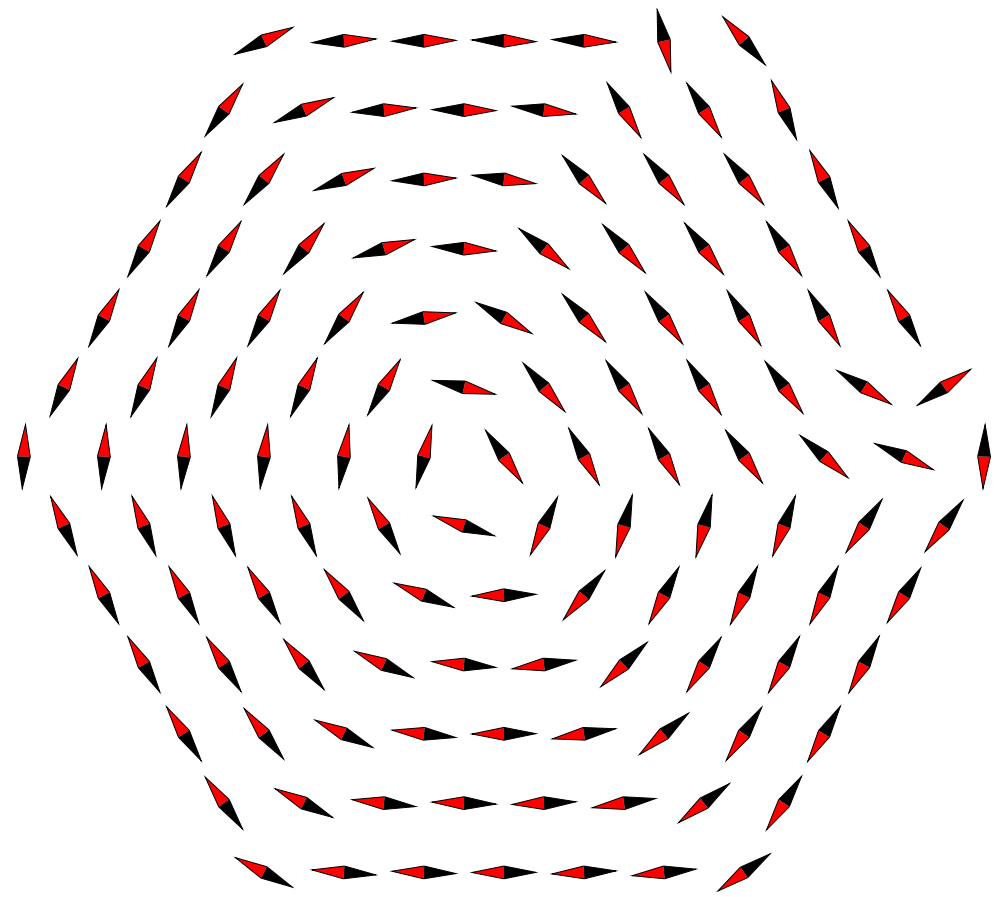


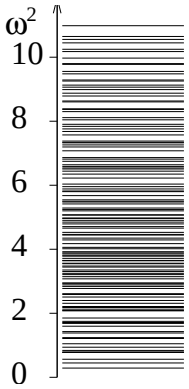
$E_3 = -327.64000$ (2 mal) $\omega_1^2 = 0.05829$



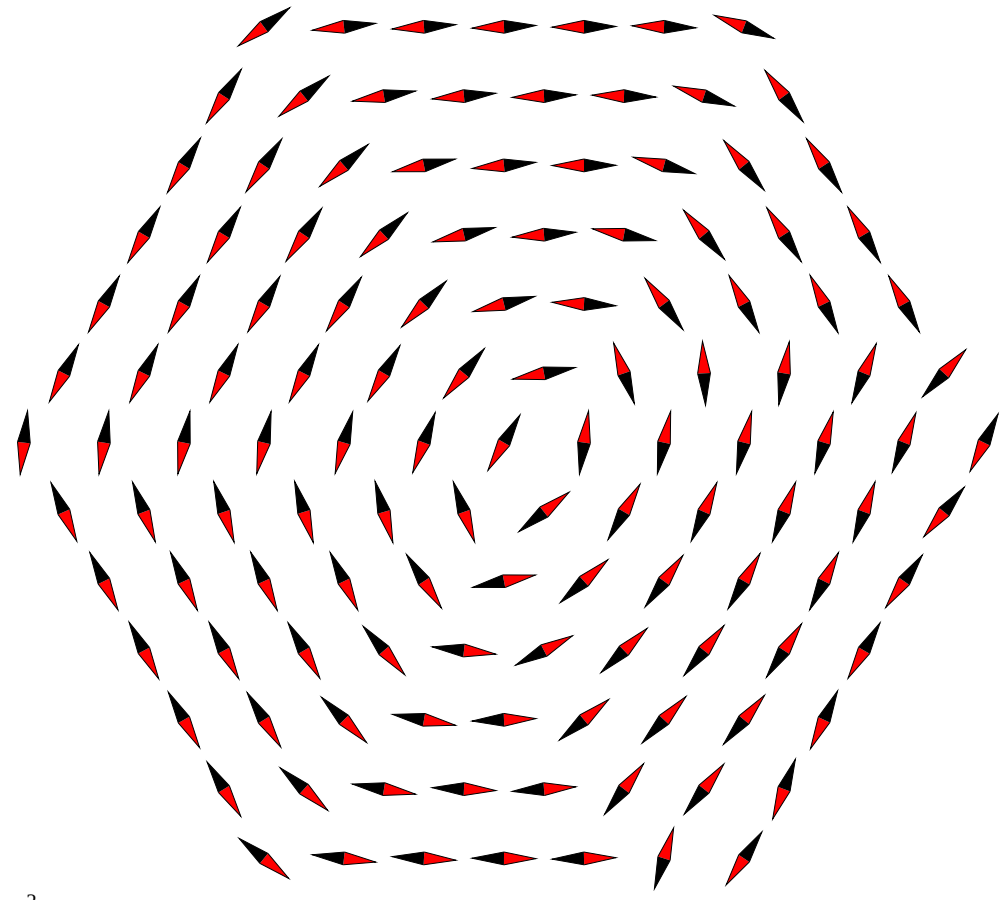


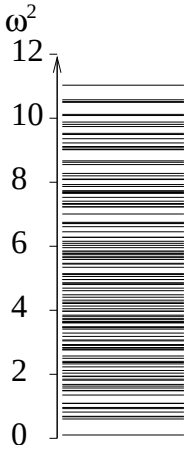
$E_4 = -327.59355$ (74 mal) $\omega_1^2 = 0.12190$



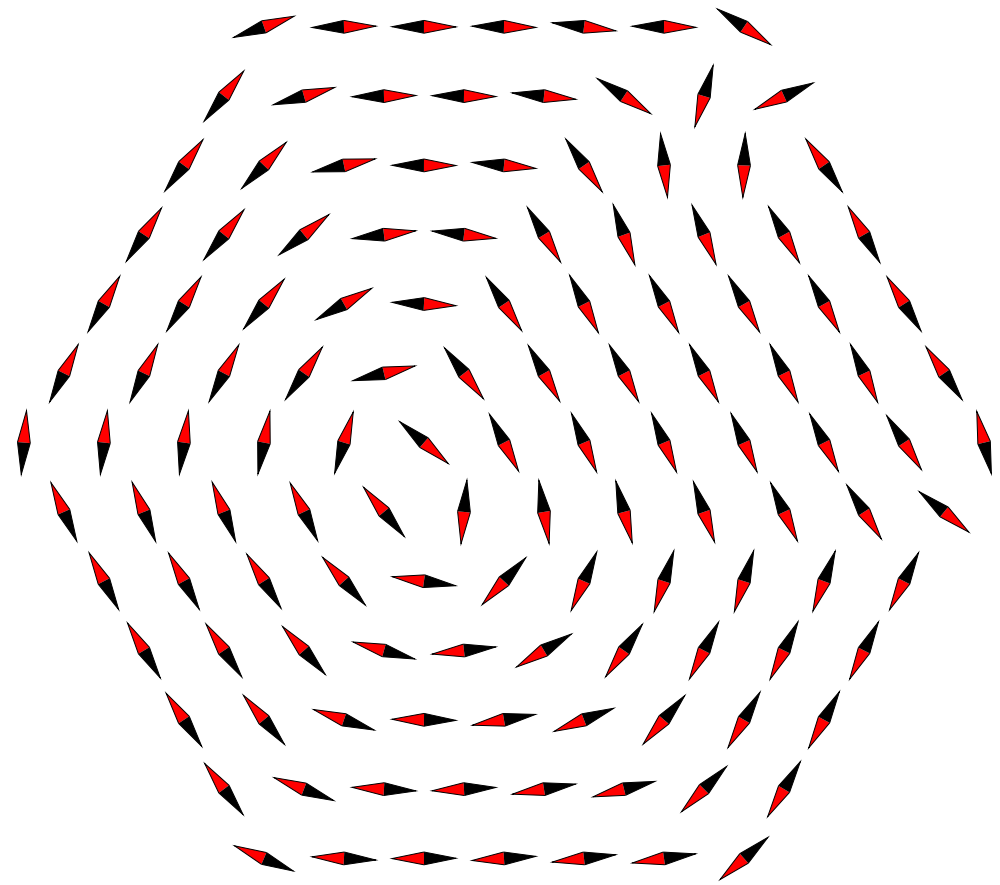


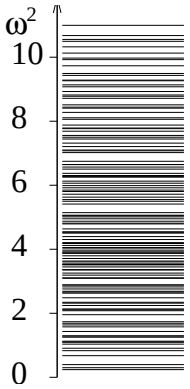
$E_5 = -327.09639$ (47 mal) $\omega_1^2 = 0.28773$



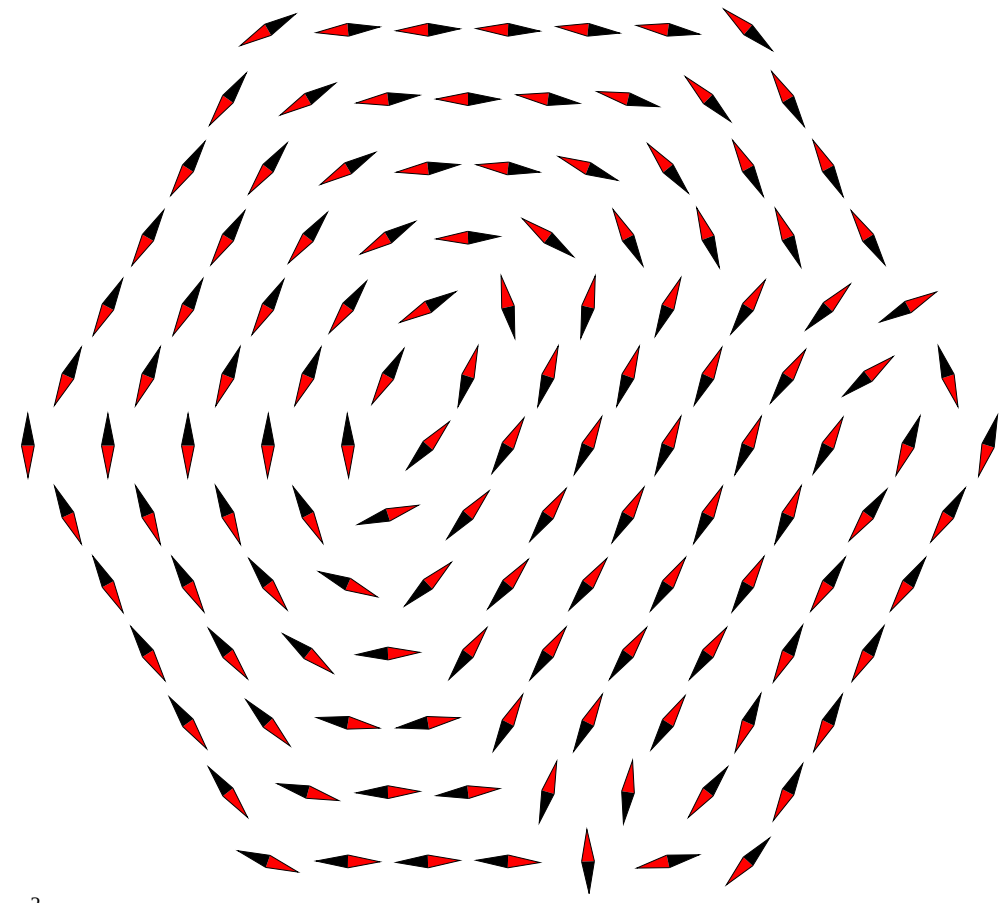


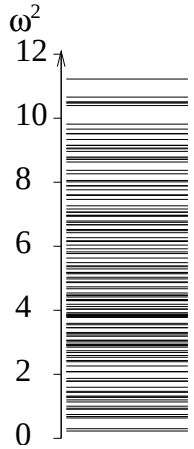
$E_6 = -326.84697$ (28 mal) $\omega_1^2 = 0.10378$



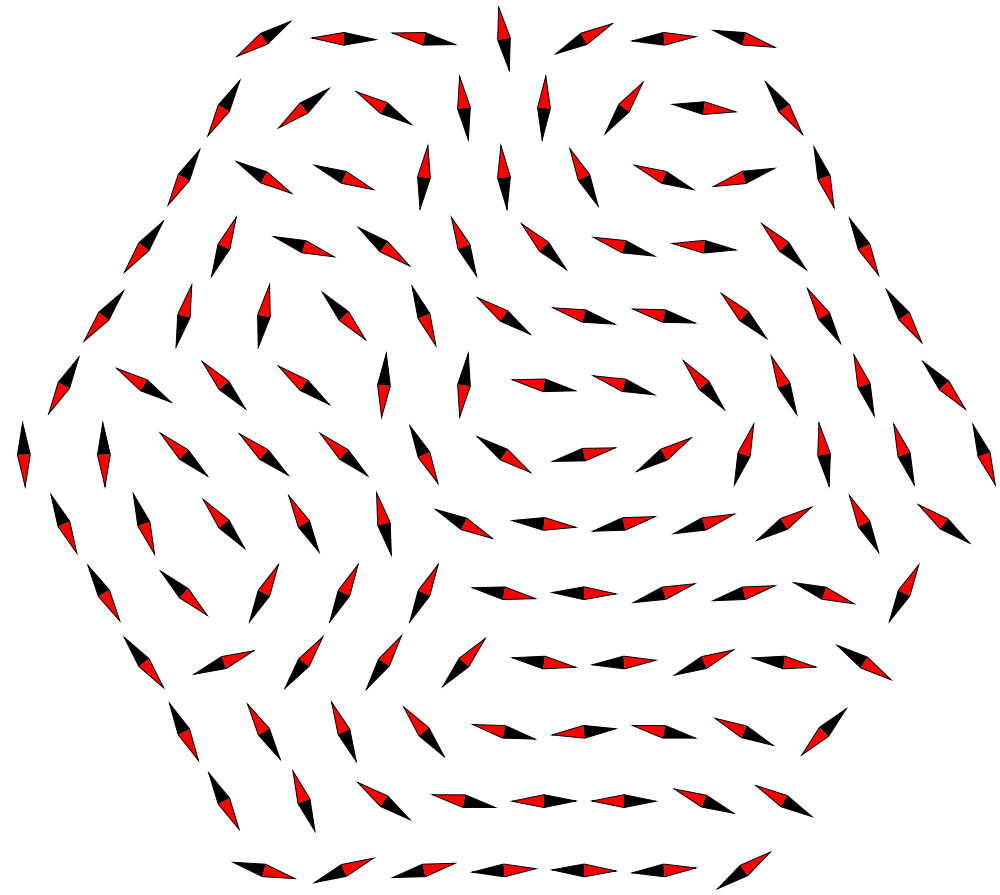


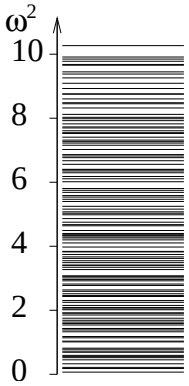
$E_7 = -326.16934$ (44 mal) $\omega_1^2 = 0.23916$



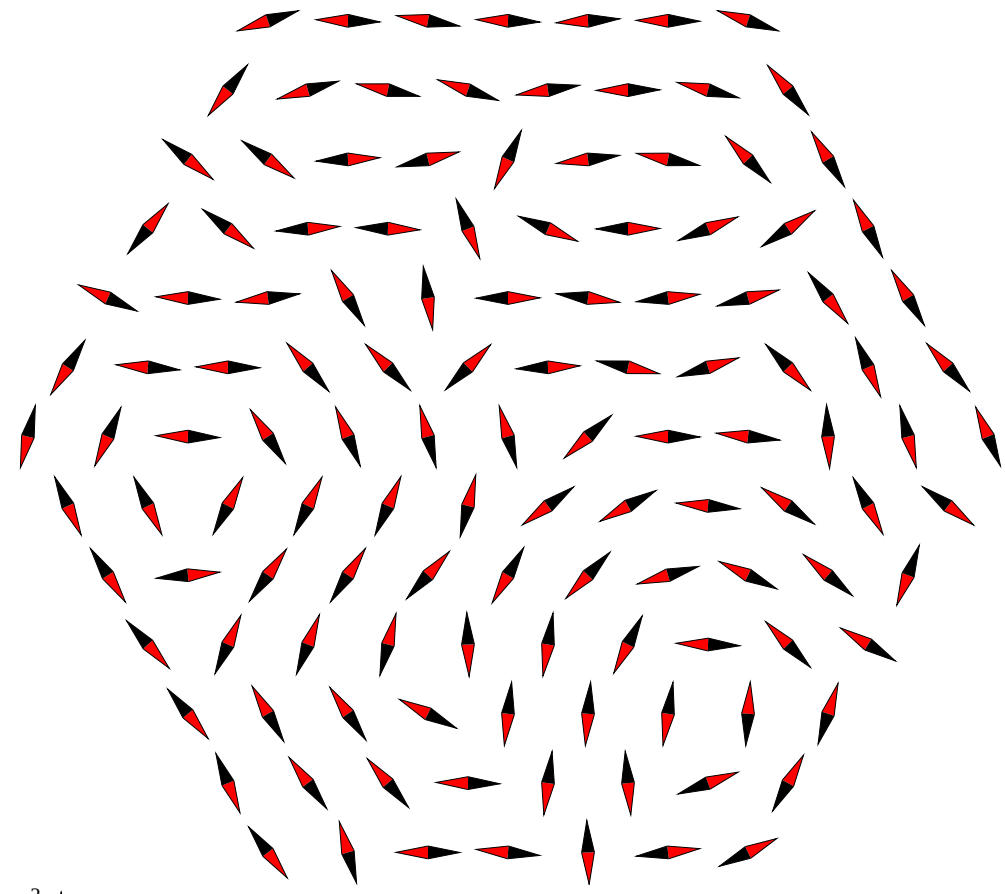


$E_{12} = -324.37200$ (32 mal) $\omega_1^2 = 0.22817$

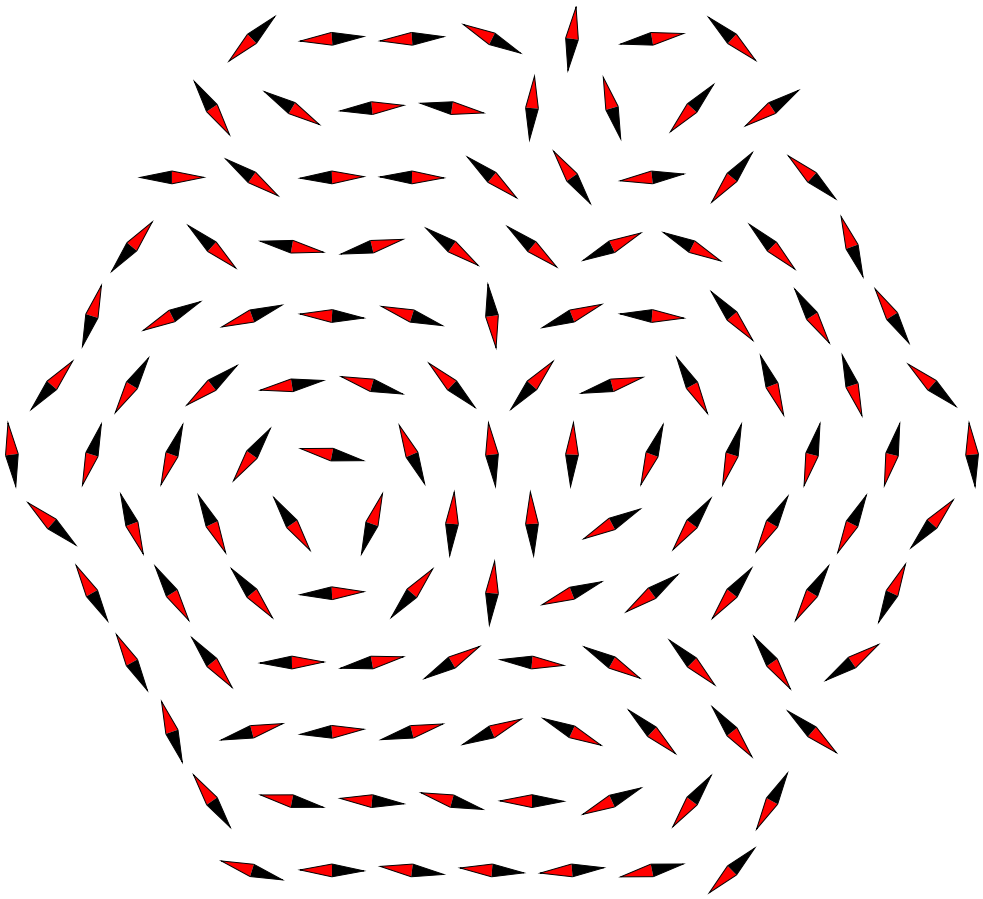




$E_{1494} = -296.26408$ (1 mal) $\omega_1^2 = 0.06974$

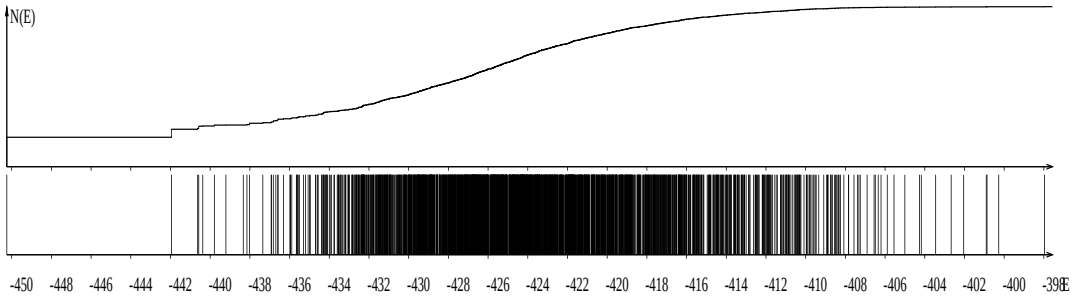


$E_{1495} = -295.64874$ (1 mal) $\omega_1^2 = 0.06547$

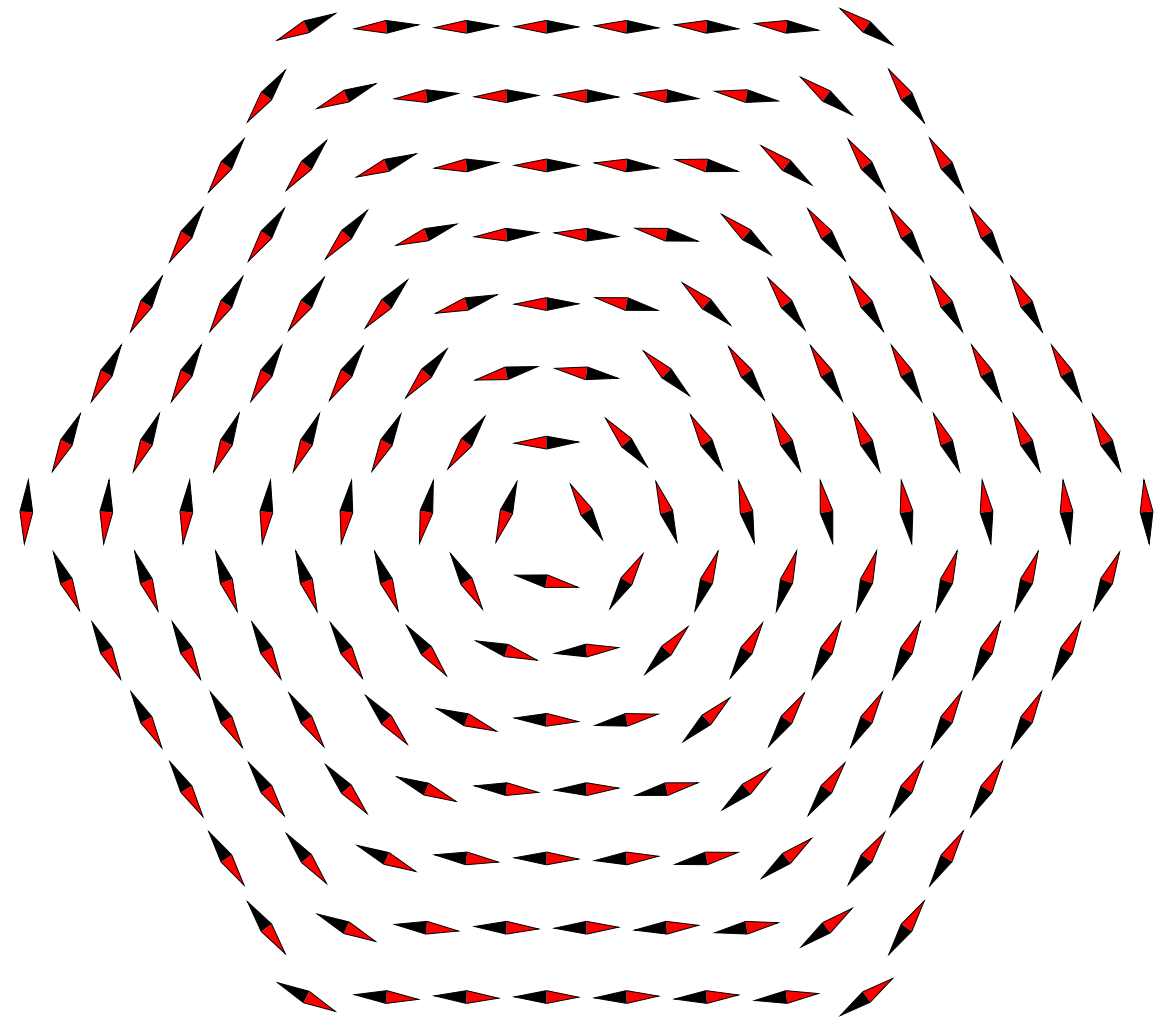


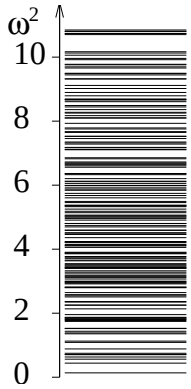
$E_{1496} = -295.34752$ (1 mal) $\omega_1^2 = 0.12257$

Dreiecks-Gitter (7,7) Die Ordnung

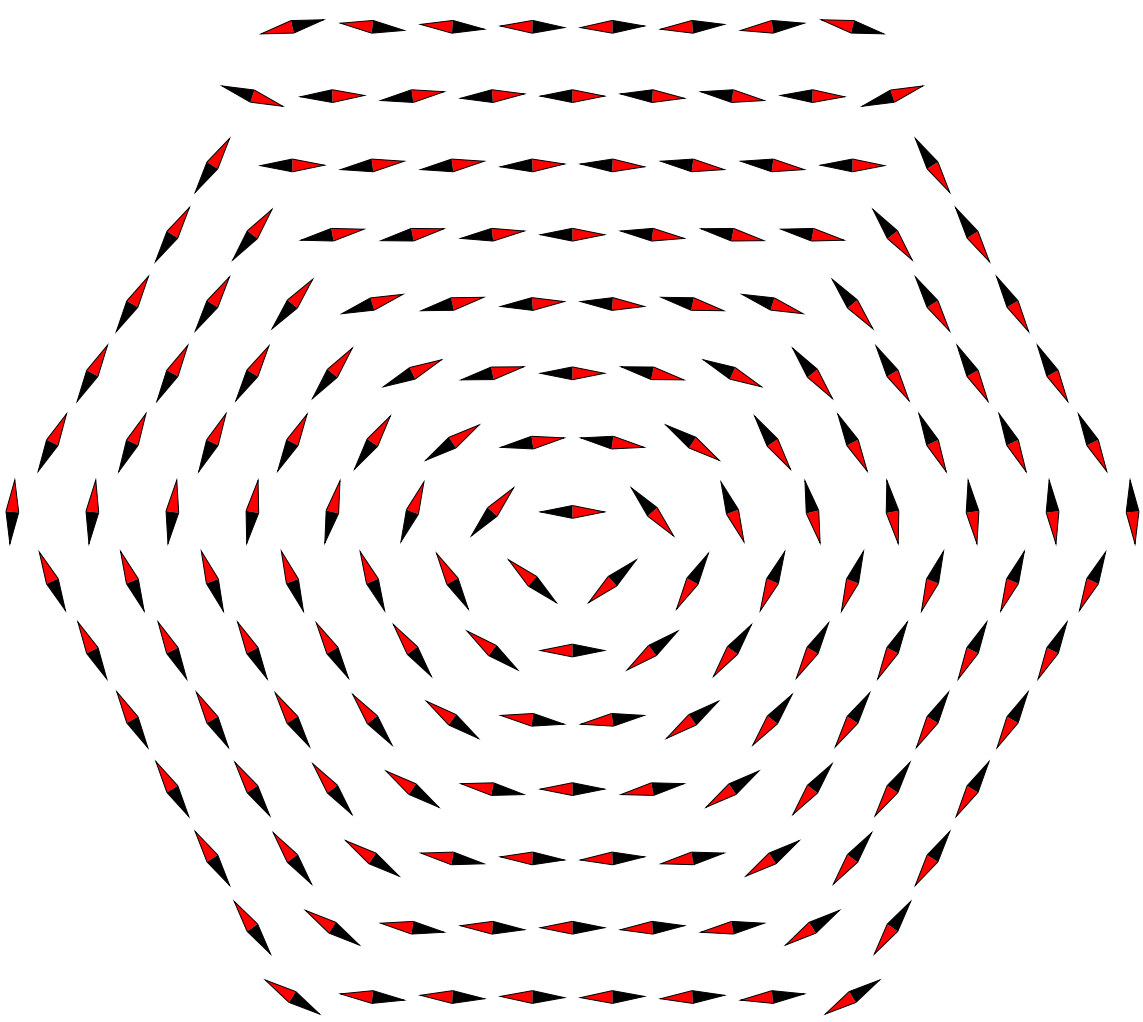


Anzahl Gitterpunkte: 169, Gefundene Energie-Niveaus: 1797, Läufe: 3000

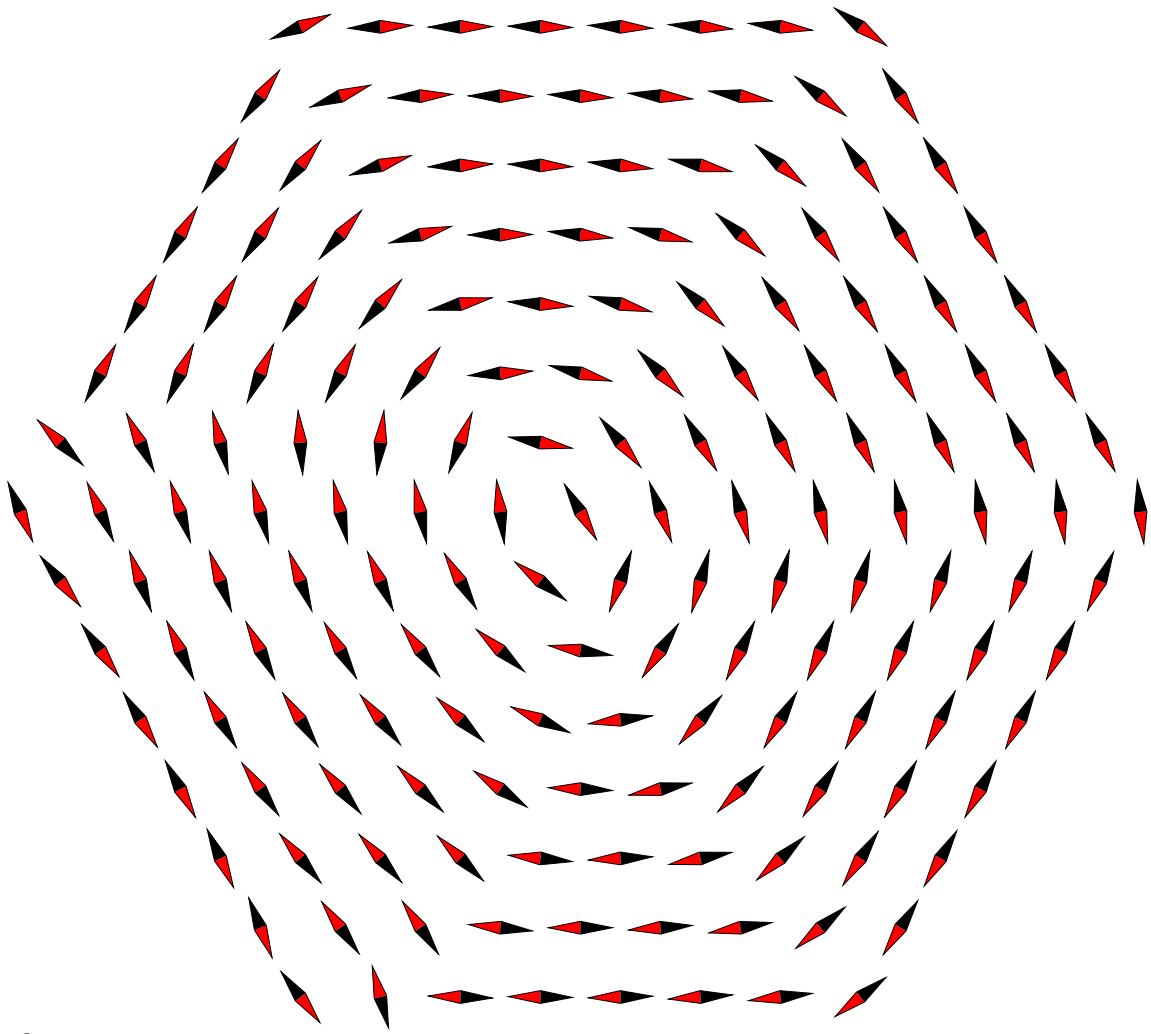


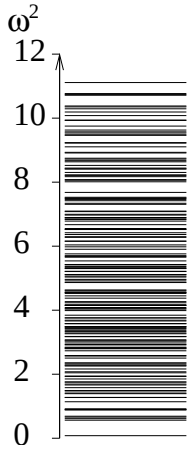


$E_1 = -450.24465$ (552 mal) $\omega_1^2 = 0.13554$



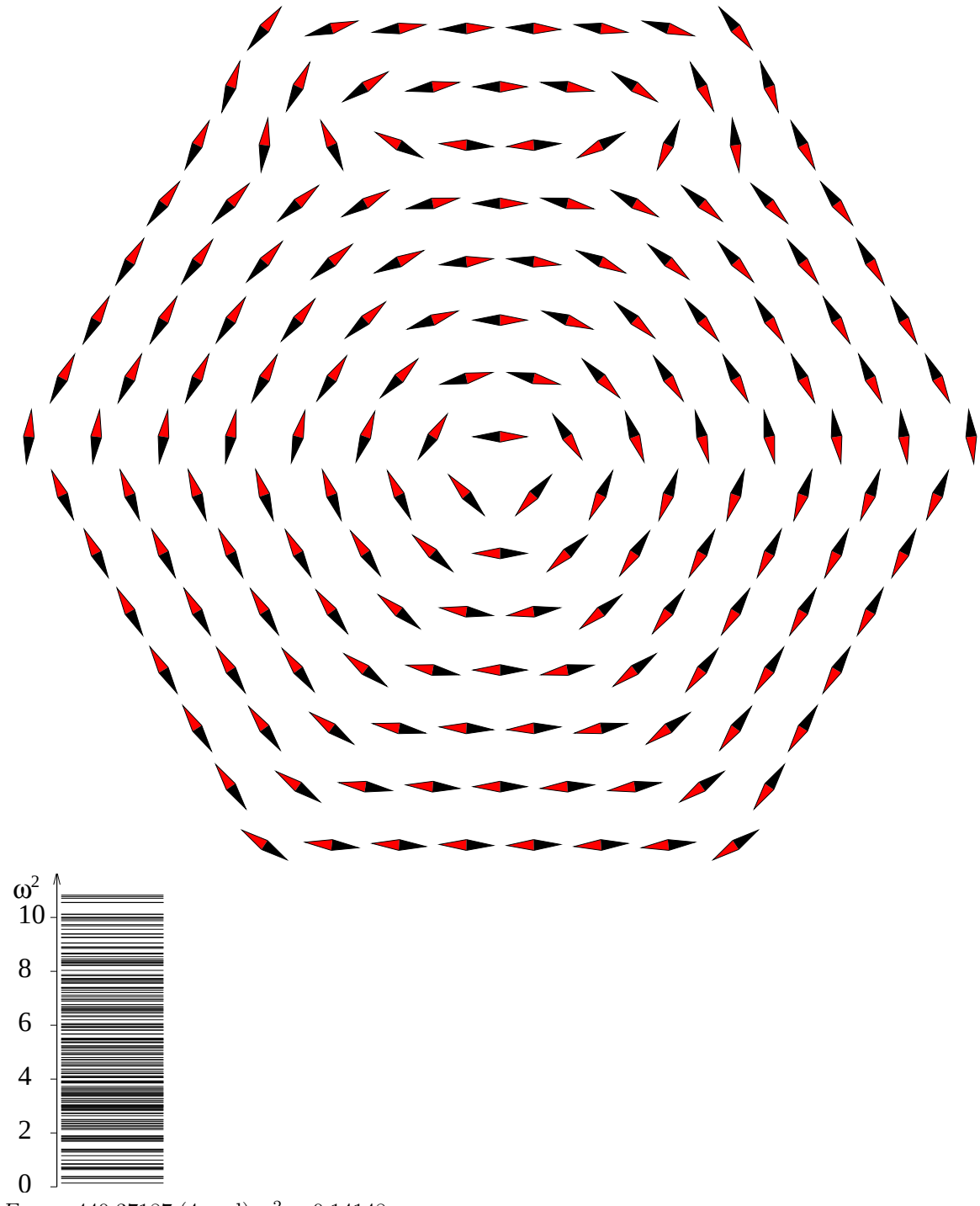
$E_2 = -441.94493$ (150 mal) $\omega_1^2 = 0.21149$



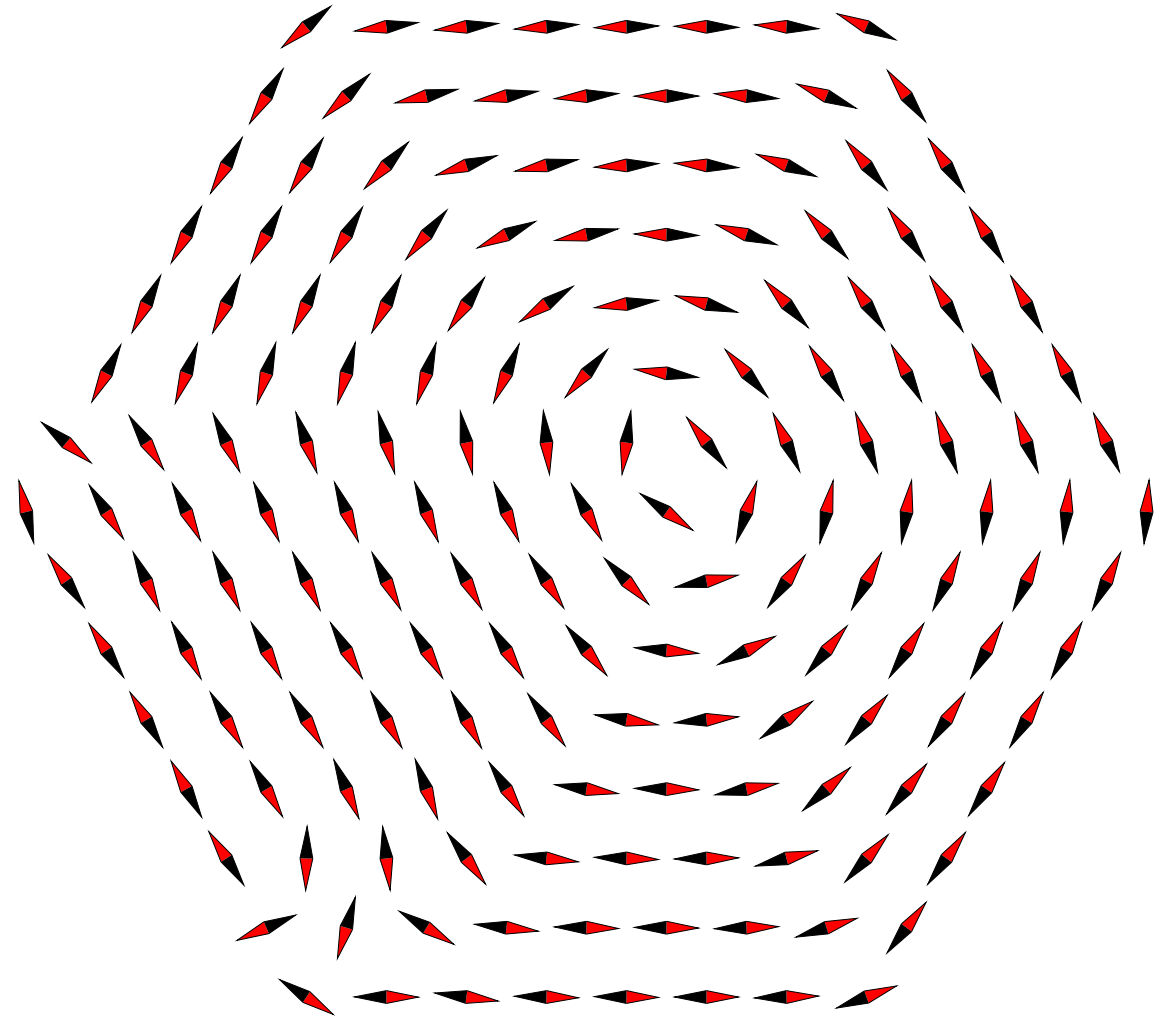


$E_3 = -440.63058$ (17 mal) $\omega_1^2 = 0.08110$

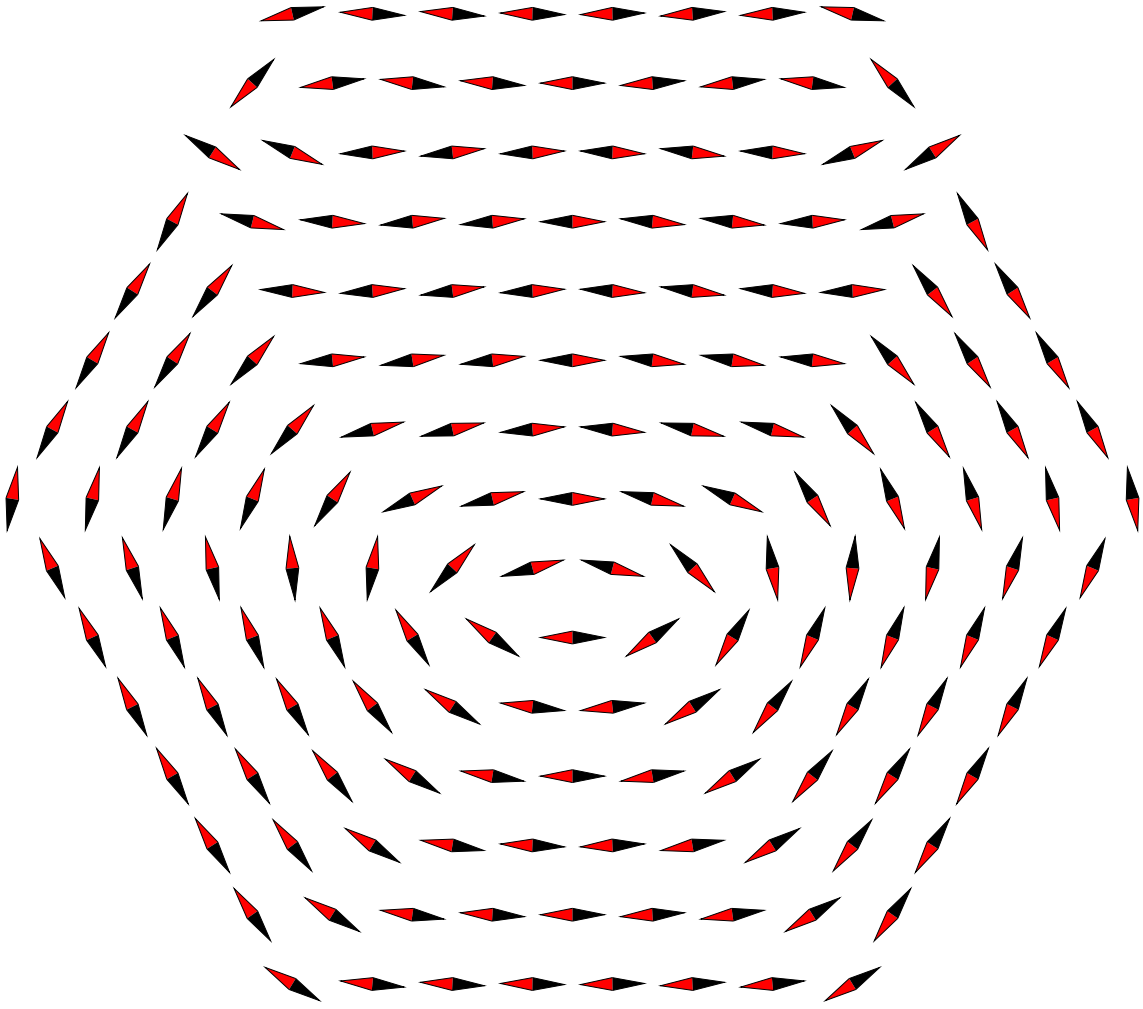
$E_4 = -440.57539$ (40 mal) $\omega_1^2 = 0.26531$

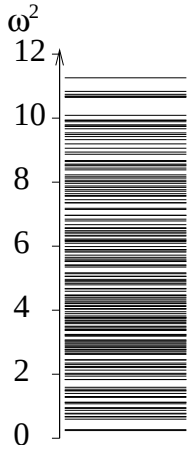


$E_5 = -440.37187$ (4 mal) $\omega_1^2 = 0.14148$

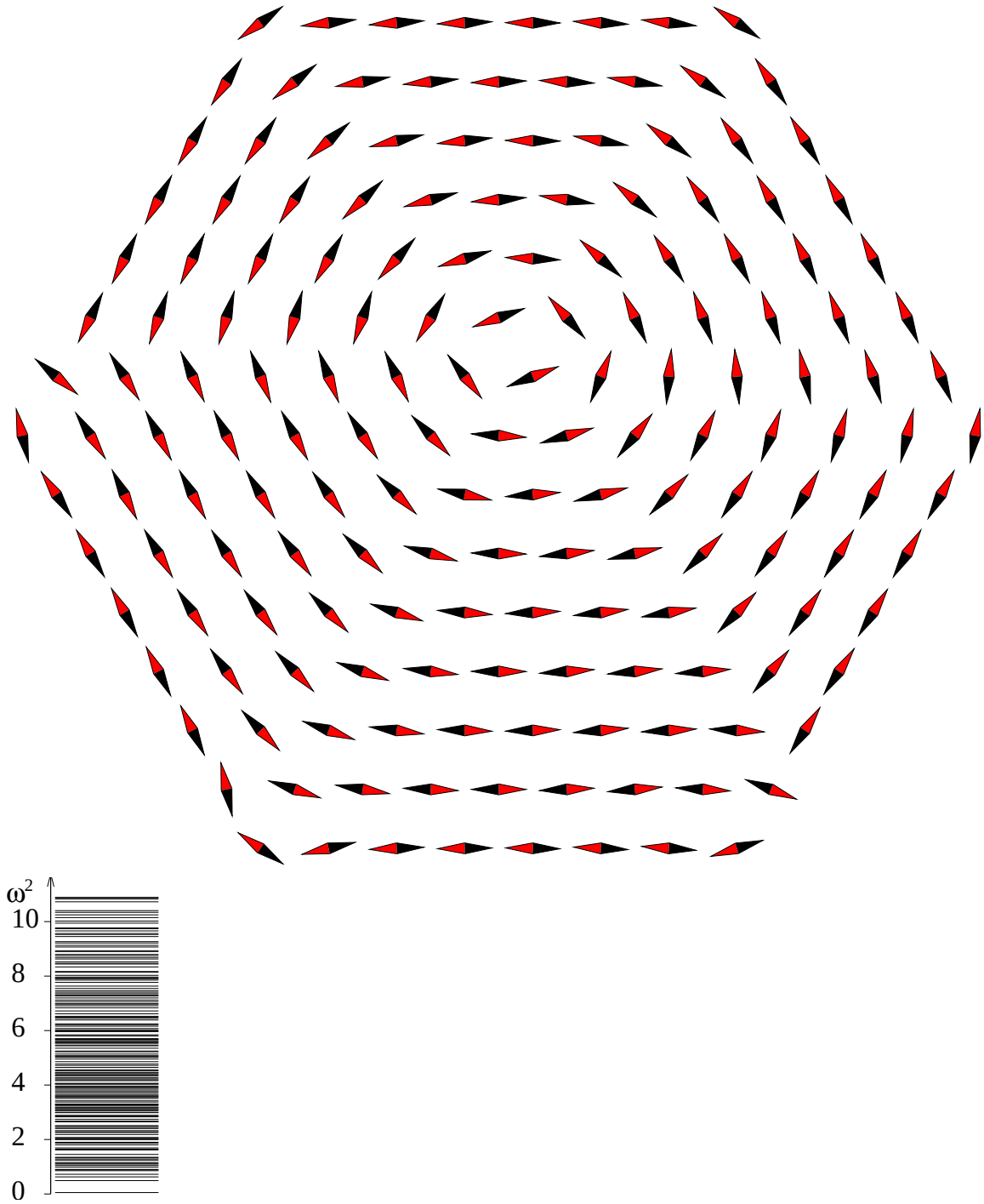


$E_6 = -439.78867$ (17 mal) $\omega_1^2 = 0.18416$

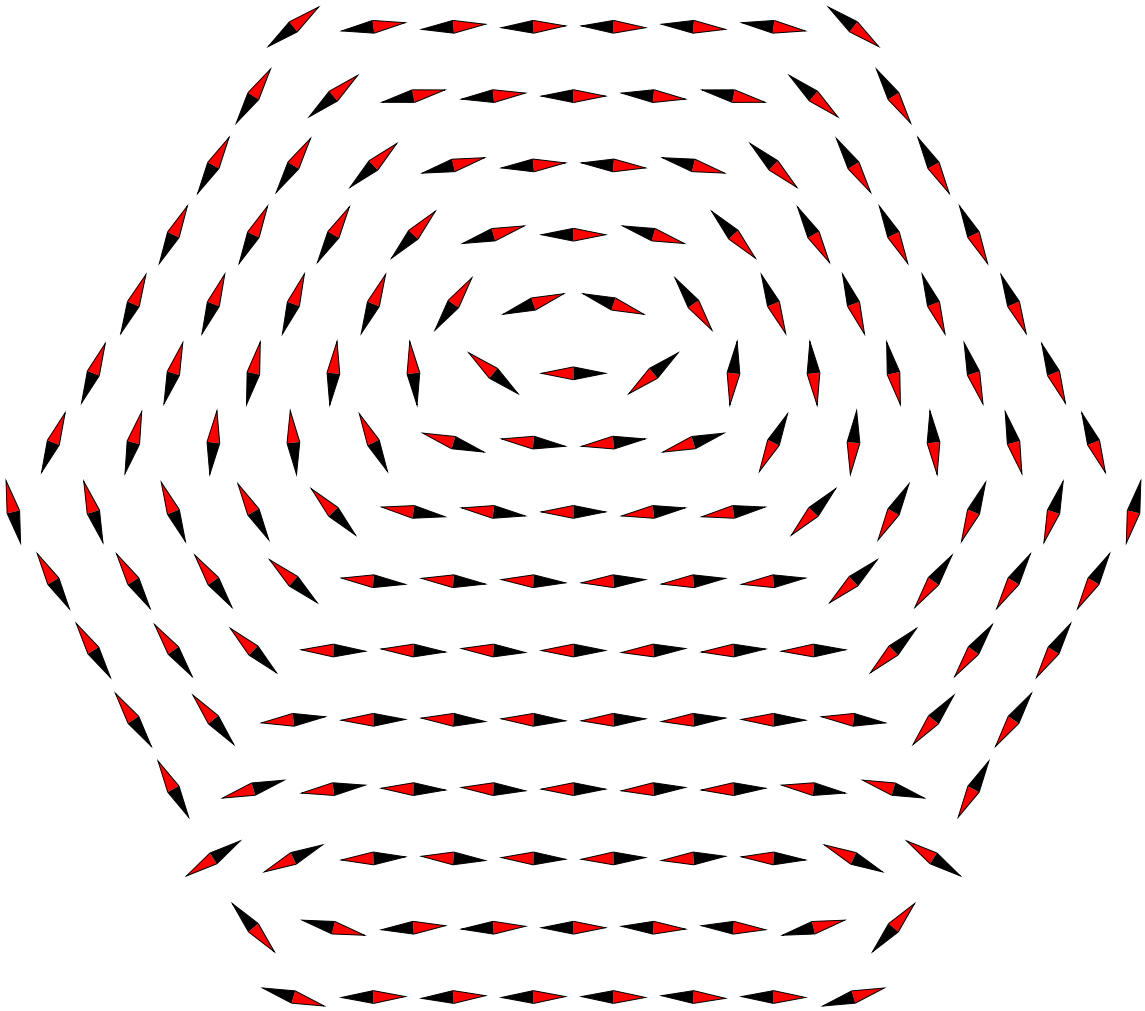




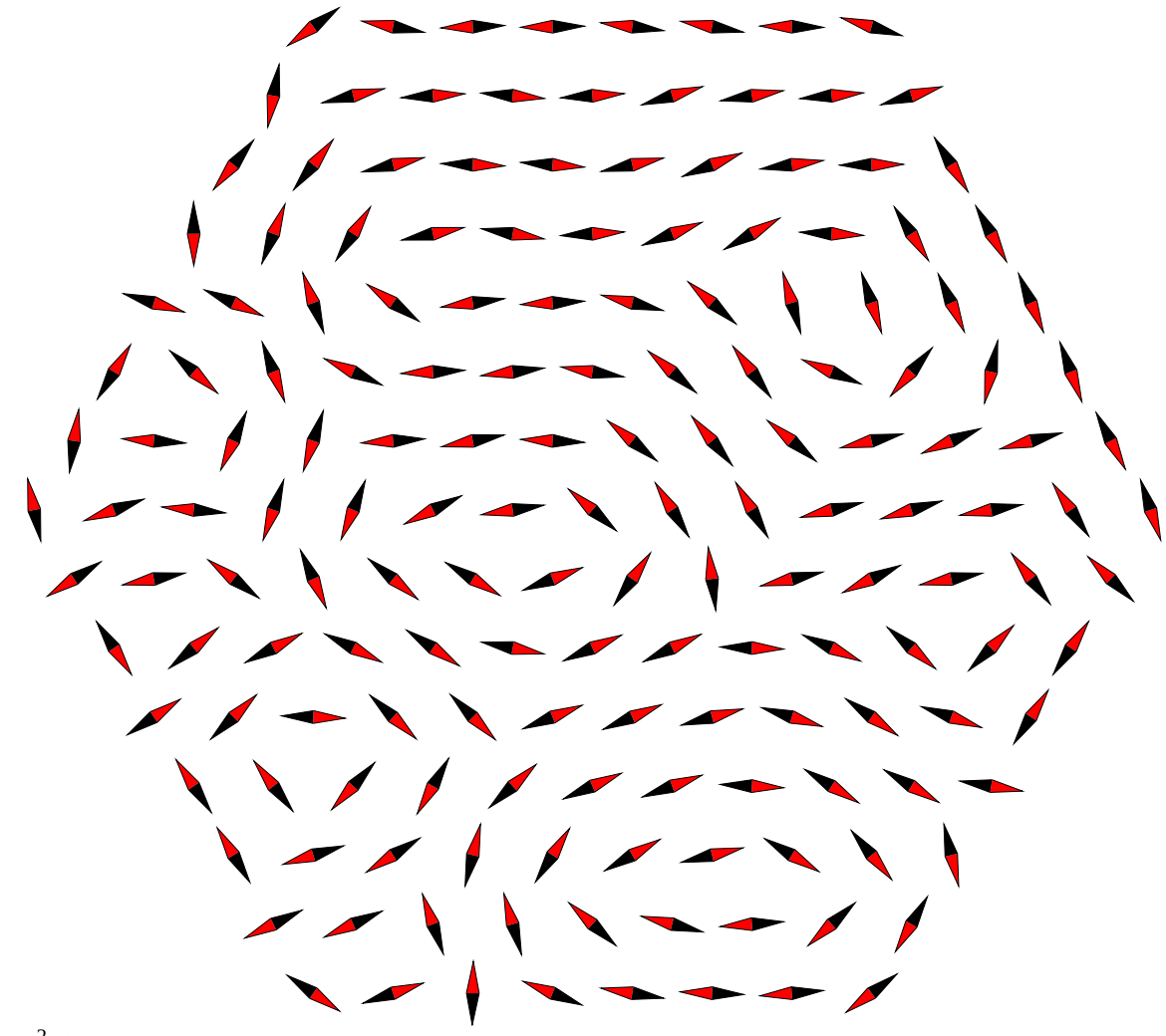
$E_{10} = -438.01127$ (24 mal) $\omega_1^2 = 0.23916$



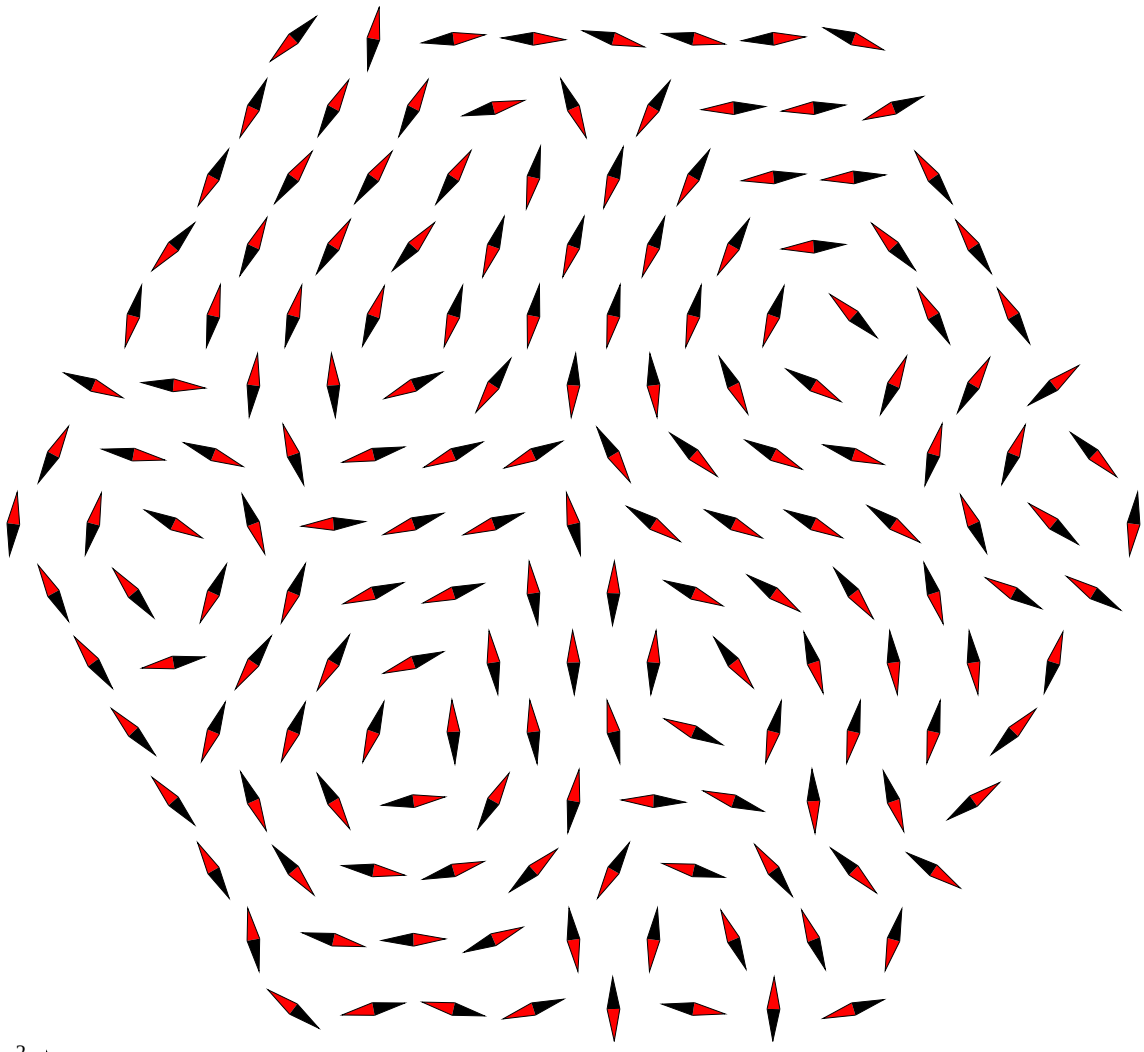
$E_{14} = -436.82087$ (22 mal) $\omega_1^2 = 0.05146$

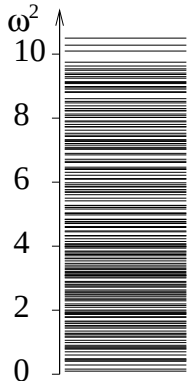


$E_{16} = -436.59208$ (23 mal) $\omega_1^2 = 0.22868$

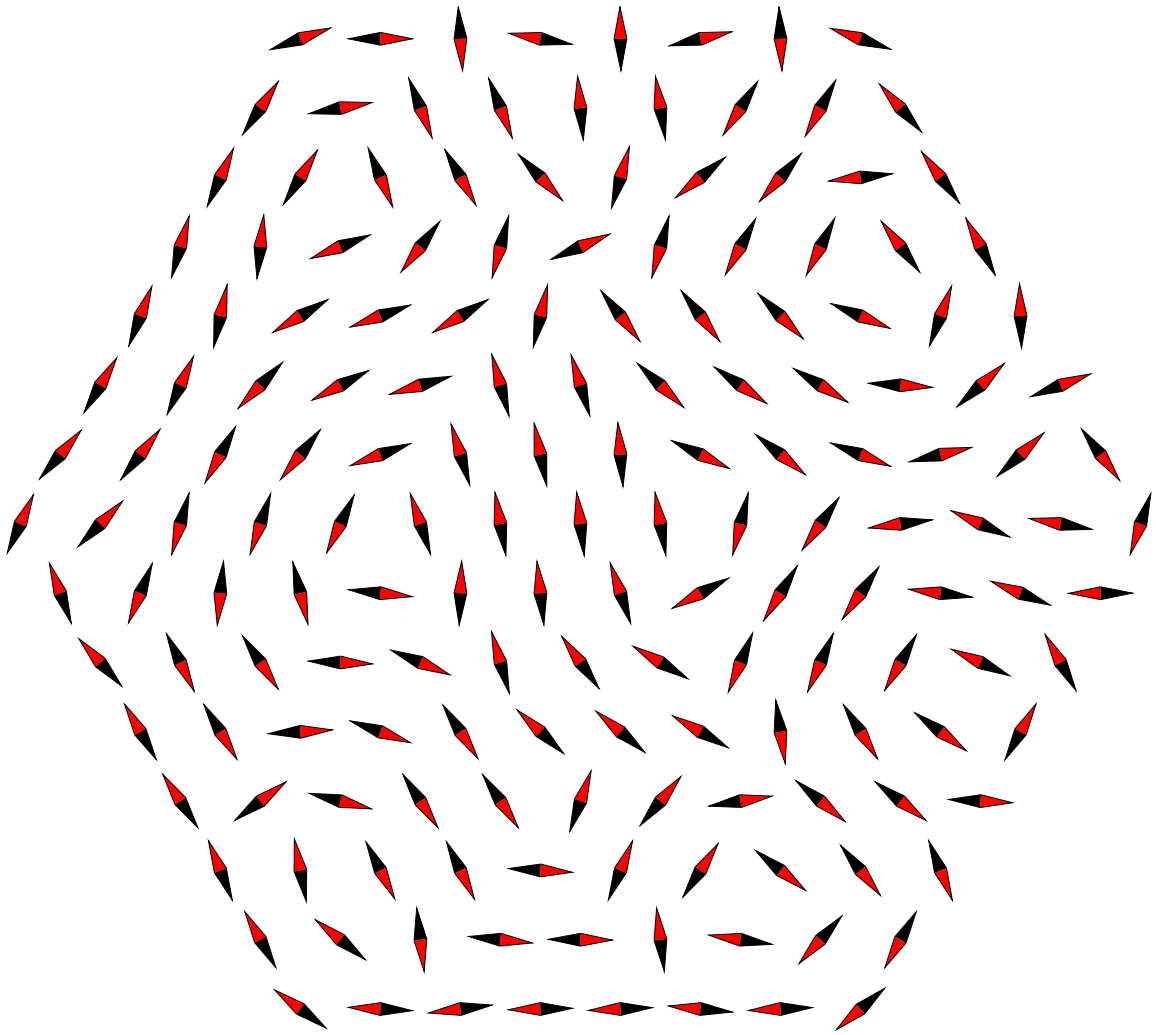


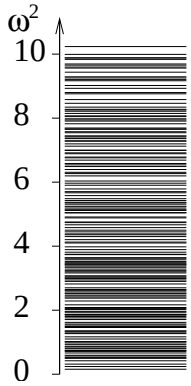
$E_{1795} = -400.86308$ (1 mal) $\omega_1^2 = 0.01732$





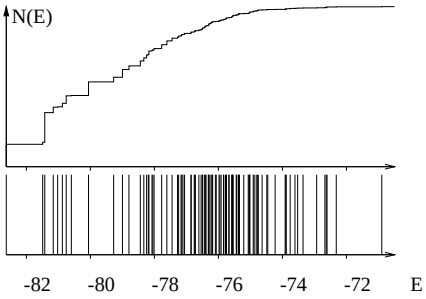
$E_{1796} = -400.27316$ (1 mal) $\omega_1^2 = 0.09705$



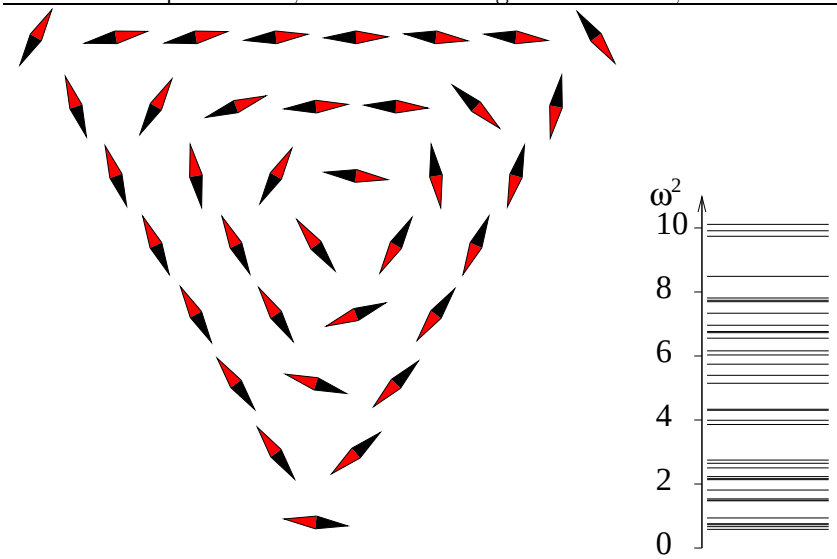


$E_{1797} = -397.97067$ (1 mal) $\omega_1^2 = 0.15495$

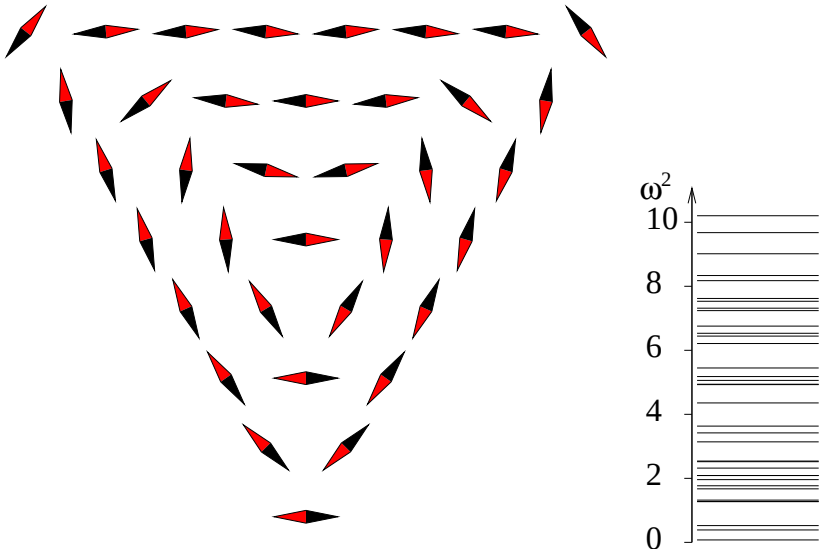
Dreiecks-Gitter (7,0)



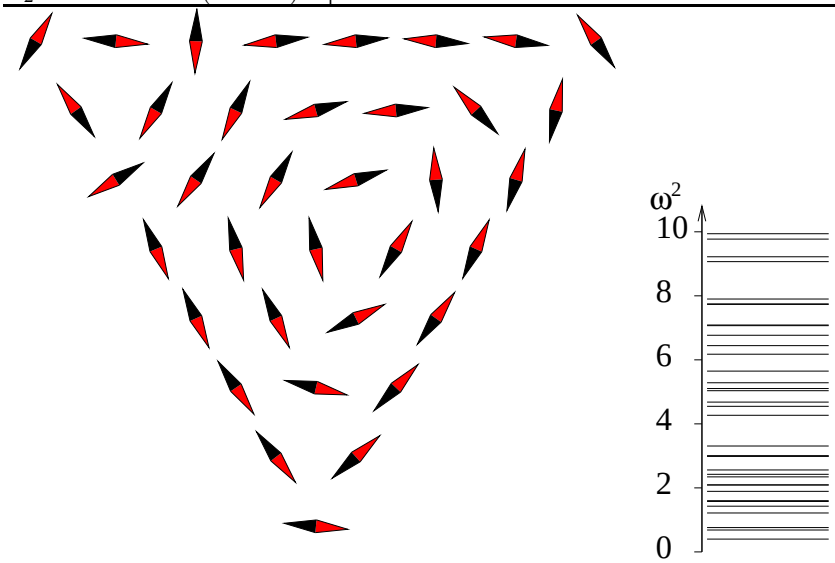
Anzahl Gitterpunkte: 36, Gefundene Energie-Niveaus: 97, Läufe: 1000



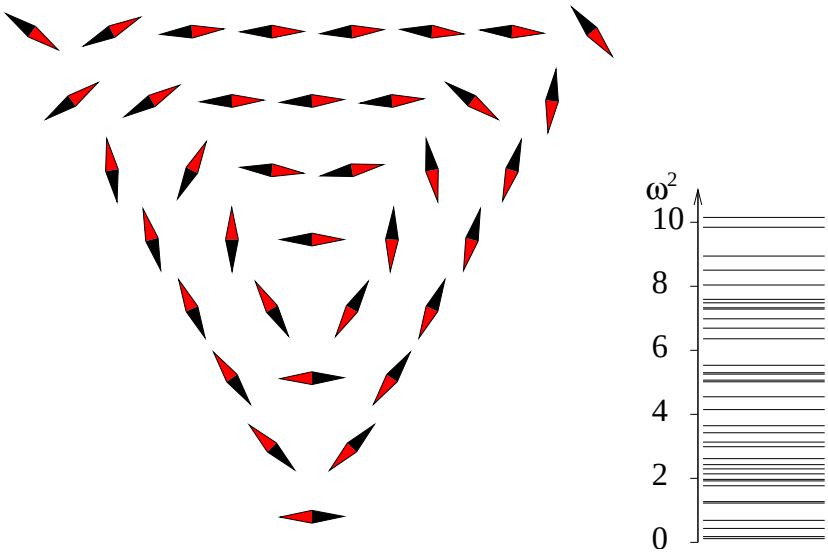
$E_1 = -82.62808$ (140 mal) $\omega_1^2 = 0.58302$



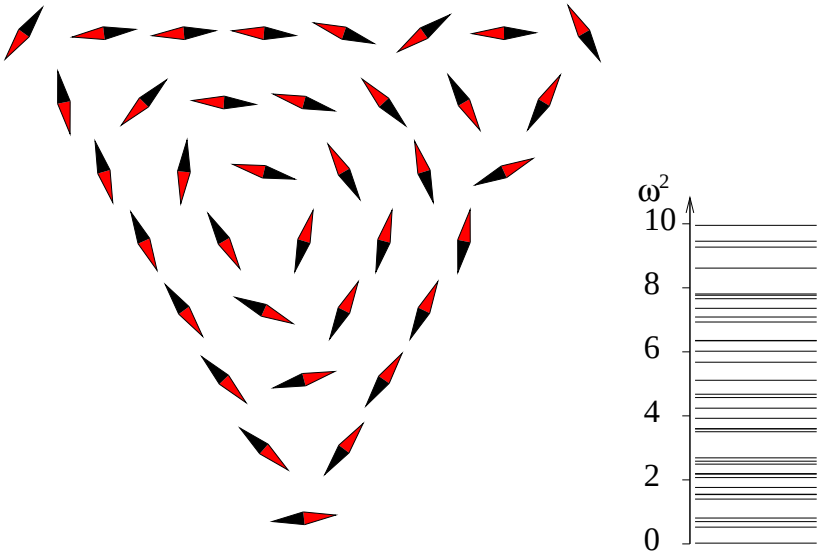
$E_2 = -81.49052$ (13 mal) $\omega_1^2 = 0.07497$



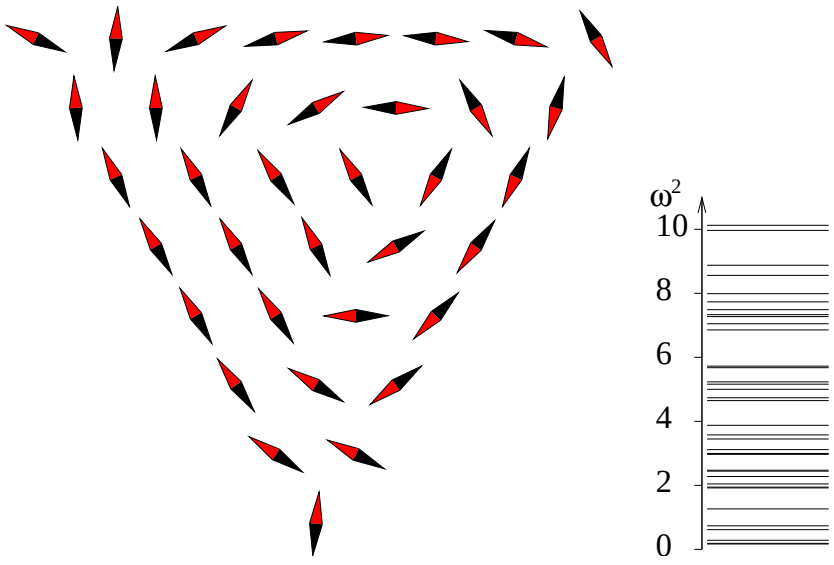
$E_3 = -81.42557$ (185 mal) $\omega_1^2 = 0.40188$



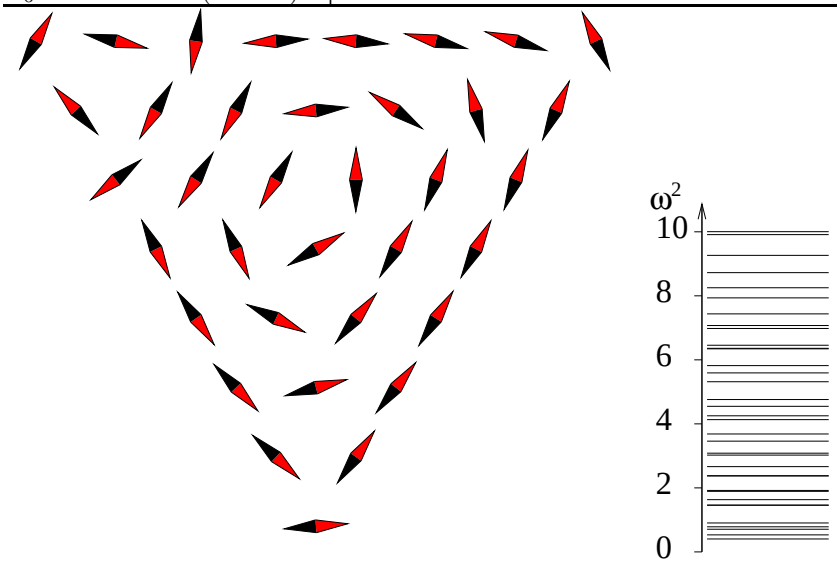
$E_4 = -81.15964$ (34 mal) $\omega_1^2 = 0.11508$



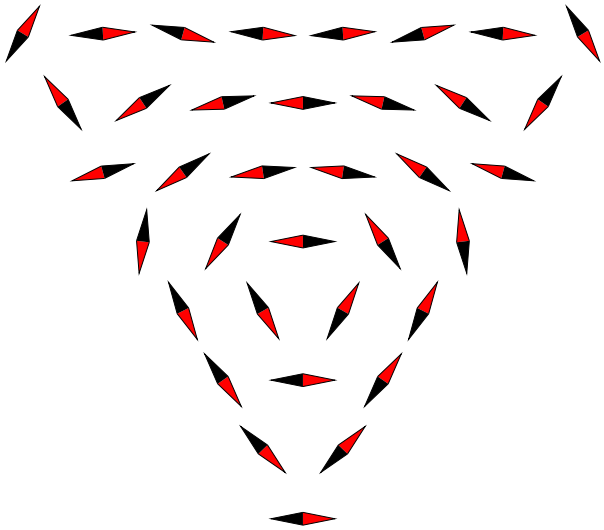
$E_5 = -81.02228$ (2 mal) $\omega_1^2 = 0.02560$

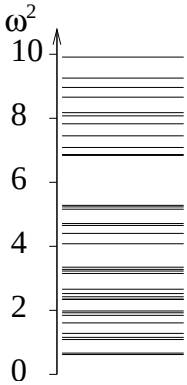


$E_6 = -80.87473$ (22 mal) $\omega_1^2 = 0.16871$

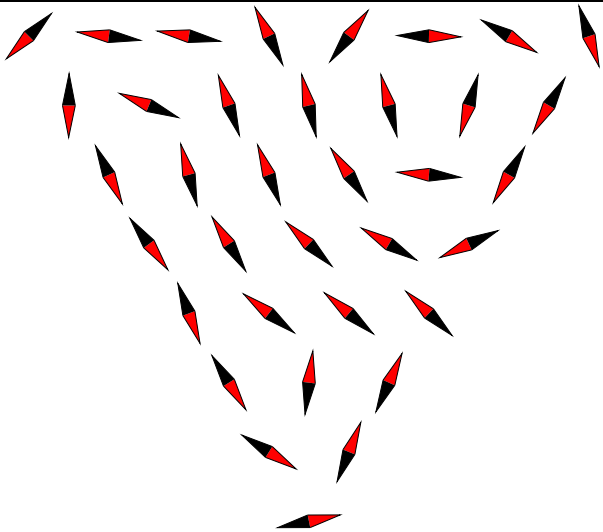


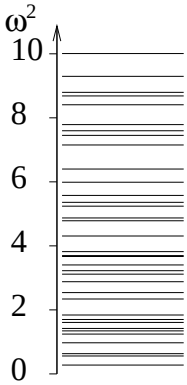
$E_7 = -80.75673$ (47 mal) $\omega_1^2 = 0.40491$



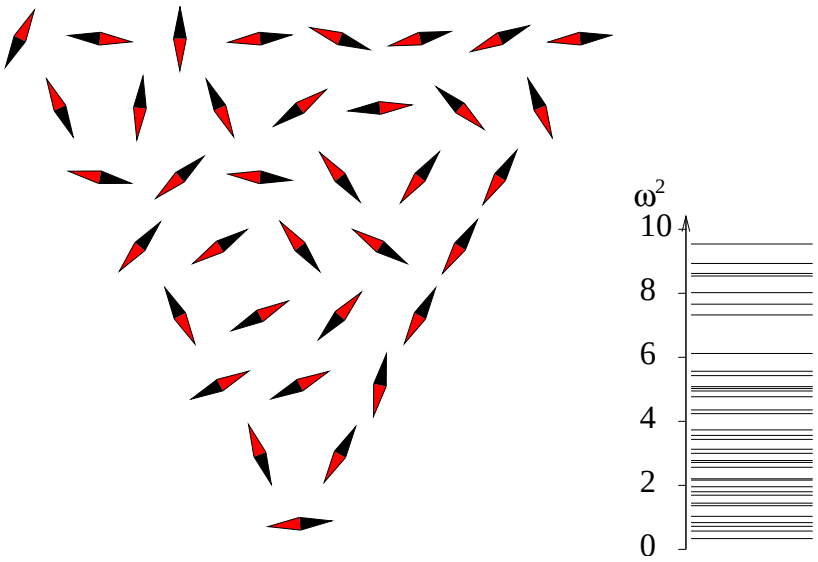


$E_9 = -80.05759$ (85 mal) $\omega_1^2 = 0.61932$

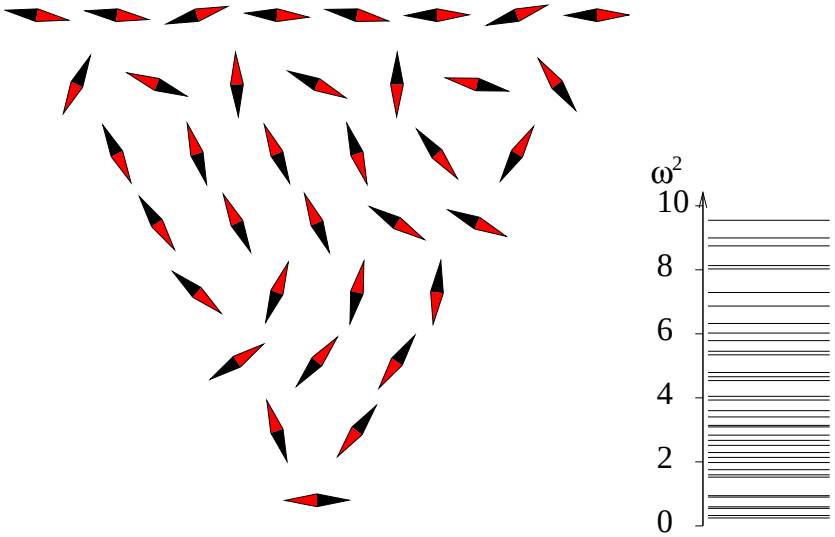




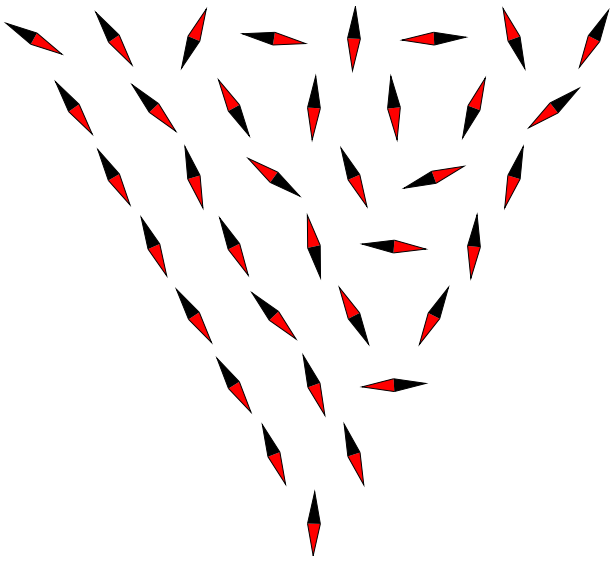
$E_{11} = -78.99819$ (48 mal) $\omega_1^2 = 0.27577$



$E_{95} = -72.60565$ (1 mal) $\omega_1^2 = 0.33735$

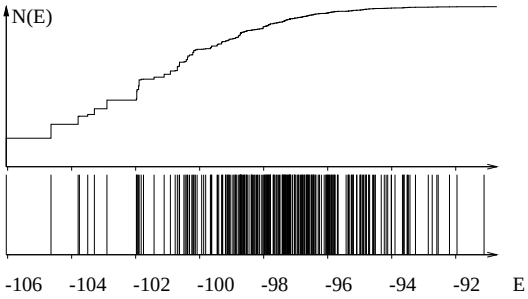


$E_{96} = -72.31818$ (1 mal) $\omega_1^2 = 0.24974$

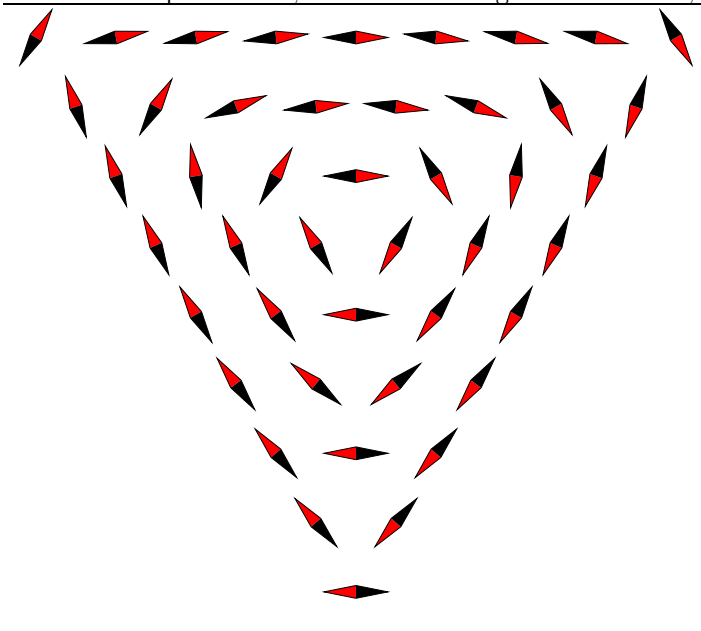


$E_{97} = -70.89584$ (1 mal) $\omega_1^2 = 0.28207$

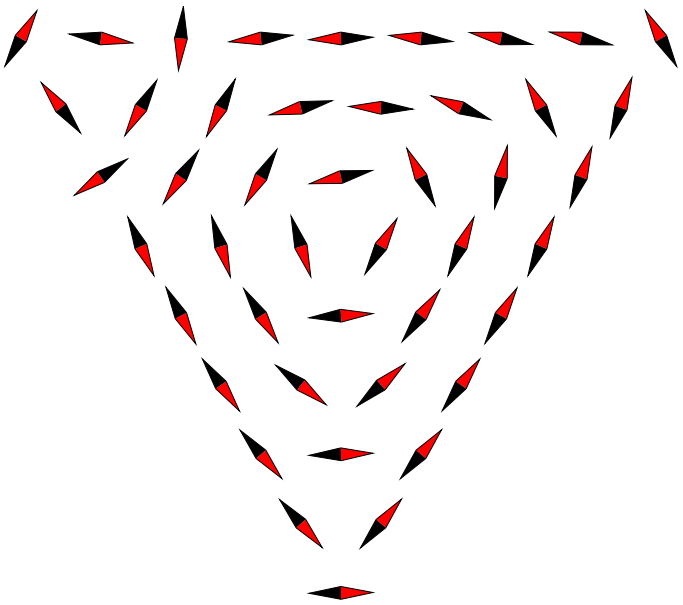
Dreiecks-Gitter (8,0)



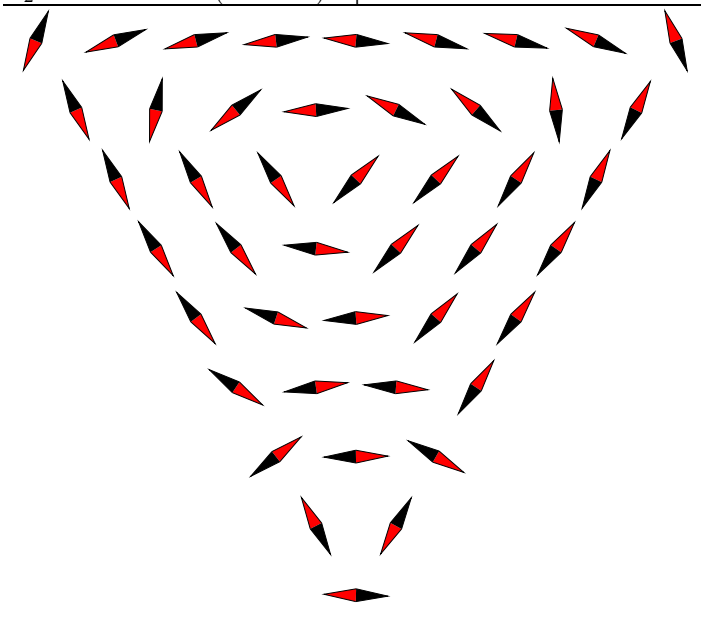
Anzahl Gitterpunkte: 45, Gefundene Energie-Niveaus: 267, Läufe: 2000



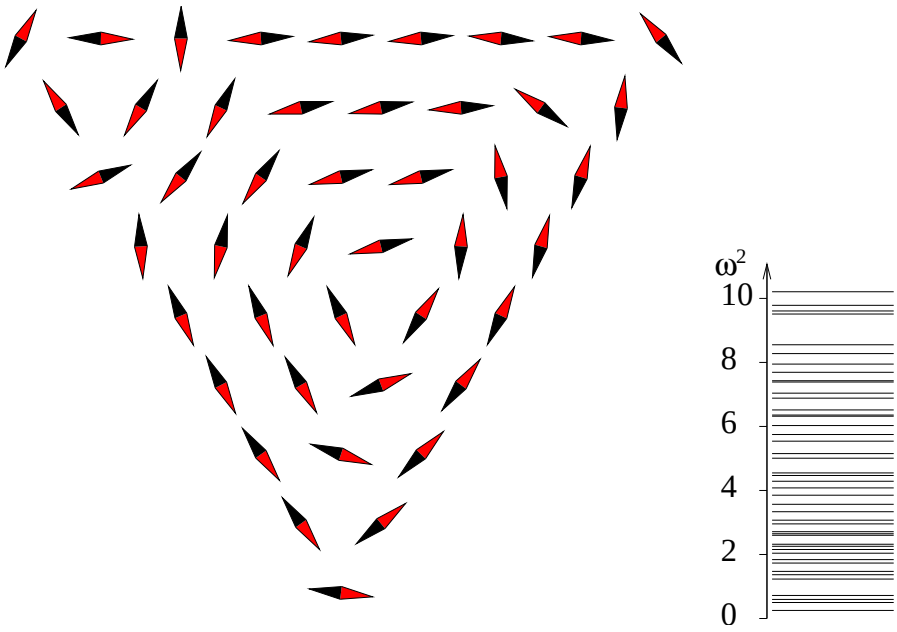
$E_1 = -106.04173$ (356 mal) $\omega_1^2 = 0.62147$



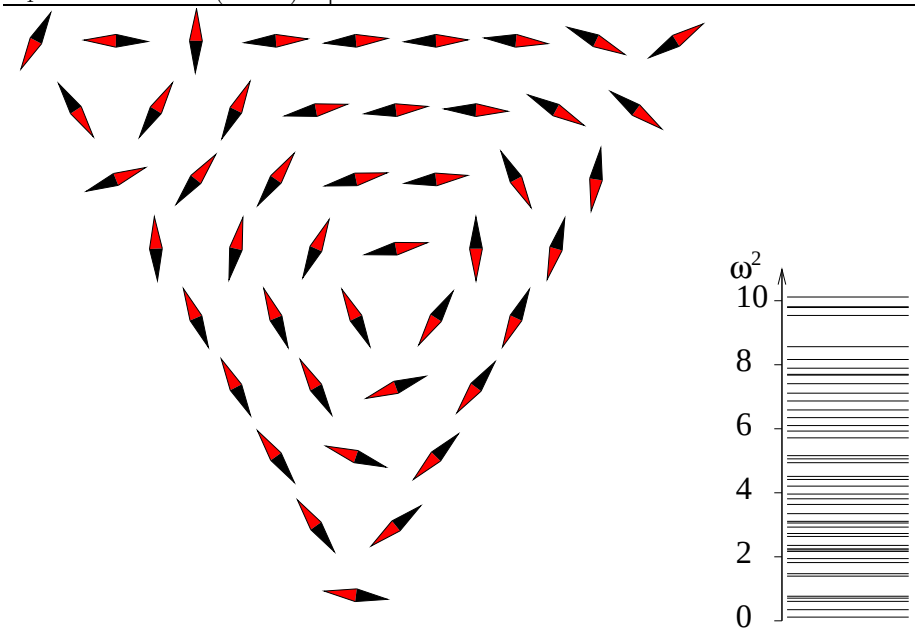
$E_2 = -104.64493$ (174 mal) $\omega_1^2 = 0.56597$



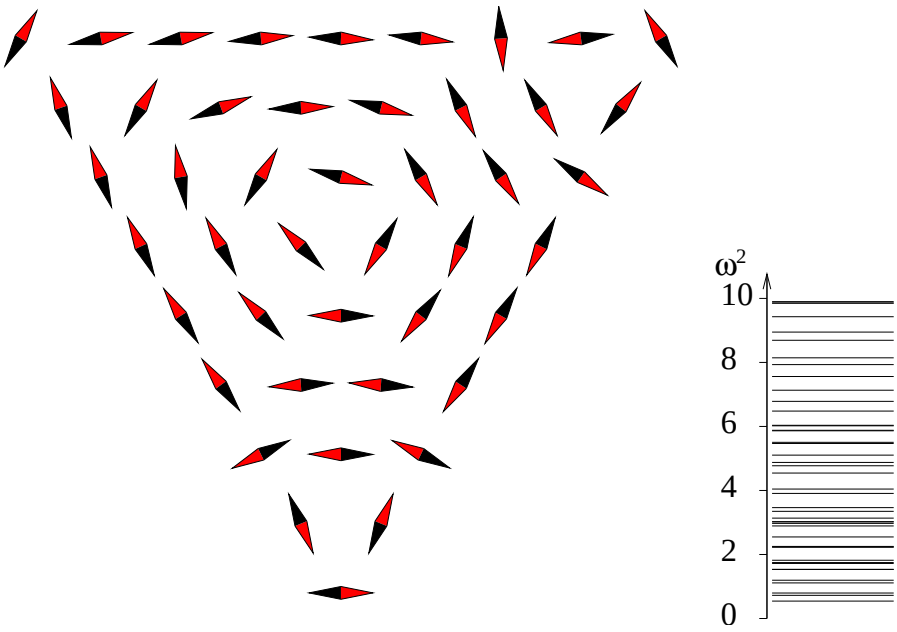
$E_3 = -103.79754$ (100 mal) $\omega_1^2 = 0.25268$



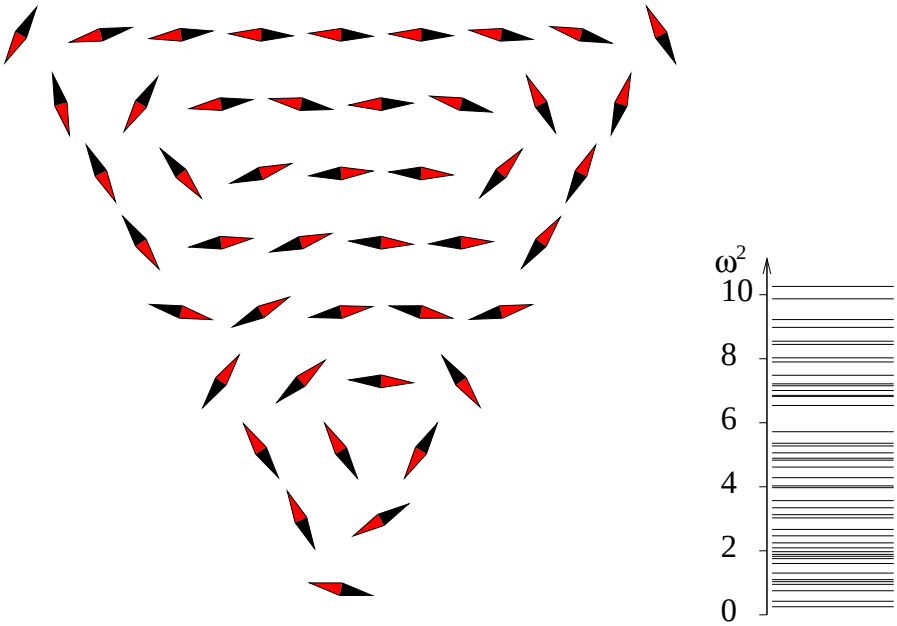
$E_4 = -103.79754$ (1 mal) $\omega_1^2 = 0.25268$



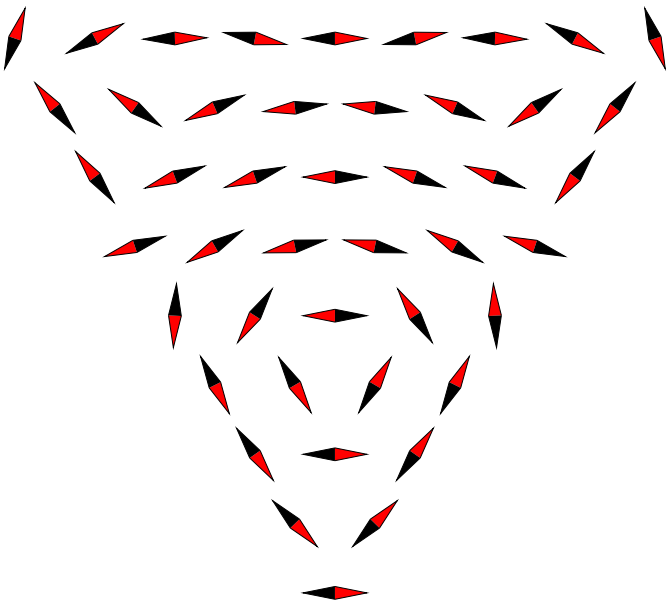
$E_5 = -103.49577$ (22 mal) $\omega_1^2 = 0.11612$

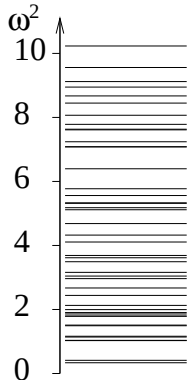


$E_6 = -103.29021$ (71 mal) $\omega_1^2 = 0.54569$

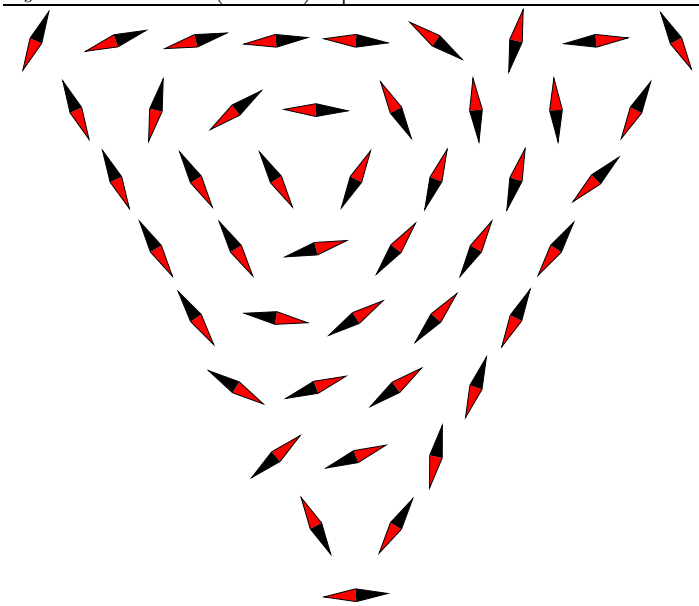


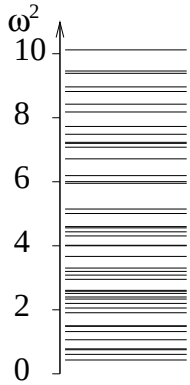
$E_7 = -102.89683$ (108 mal) $\omega_1^2 = 0.25345$



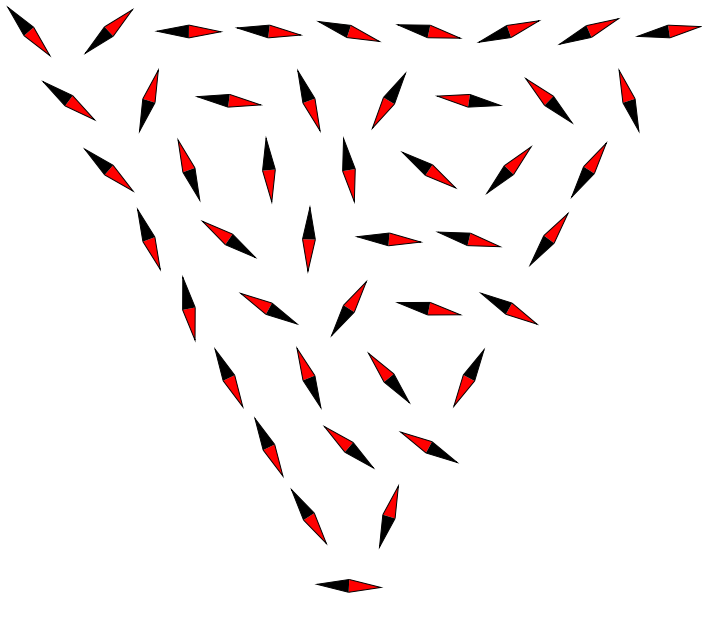


$E_9 = -101.96502$ (89 mal) $\omega_1^2 = 0.33735$

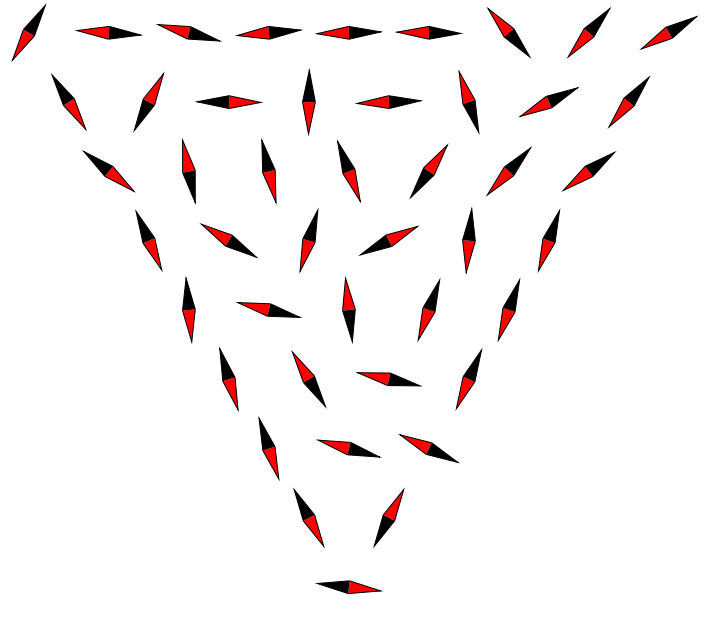




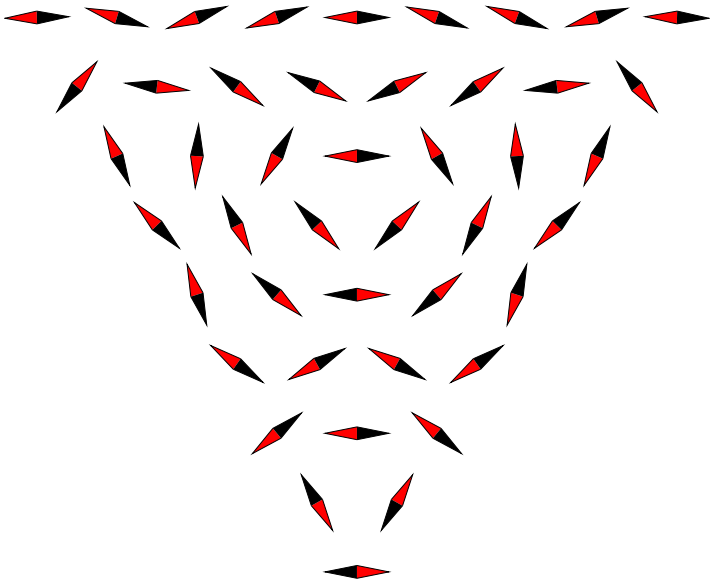
$E_{13} = -101.89122$ (74 mal) $\omega_1^2 = 0.43382$



$E_{265} = -92.19510$ (1 mal) $\omega_1^2 = 0.23579$

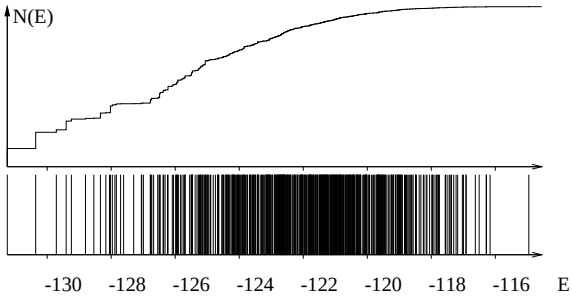


$E_{266} = -91.95884$ (1 mal) $\omega_1^2 = 0.40786$

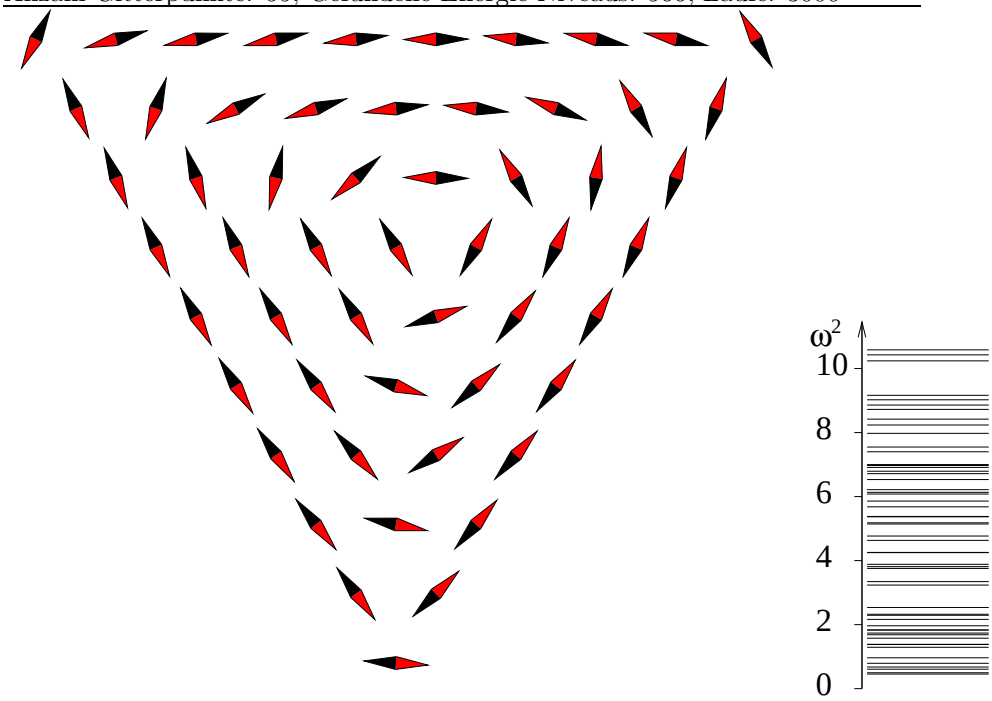


$E_{267} = -91.11451$ (1 mal) $\omega_1^2 = 0.28981$

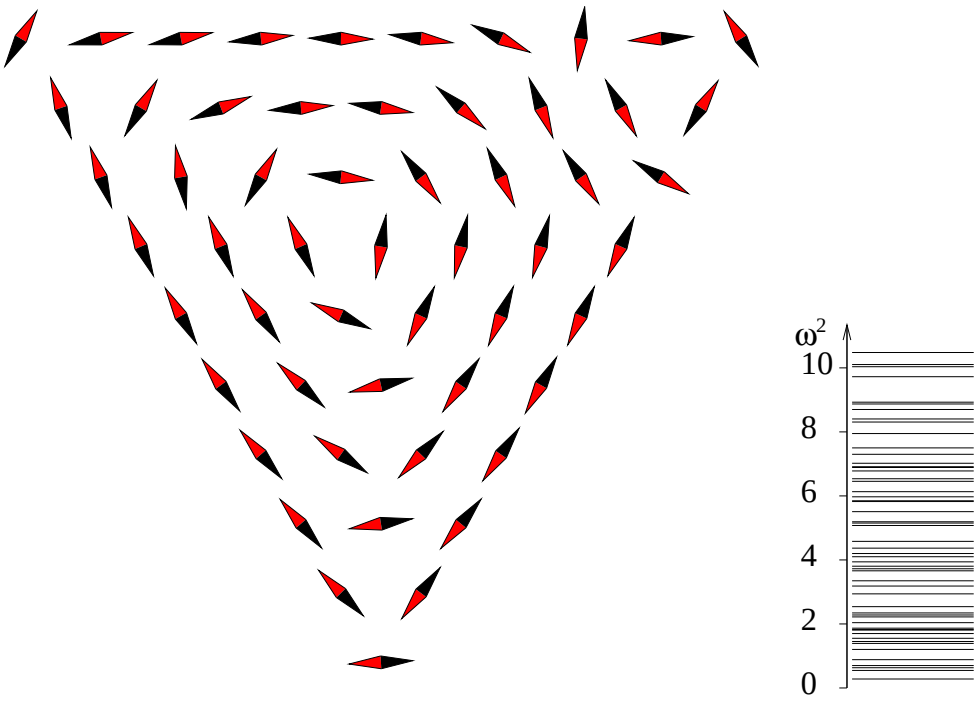
Dreiecks-Gitter (9,0)



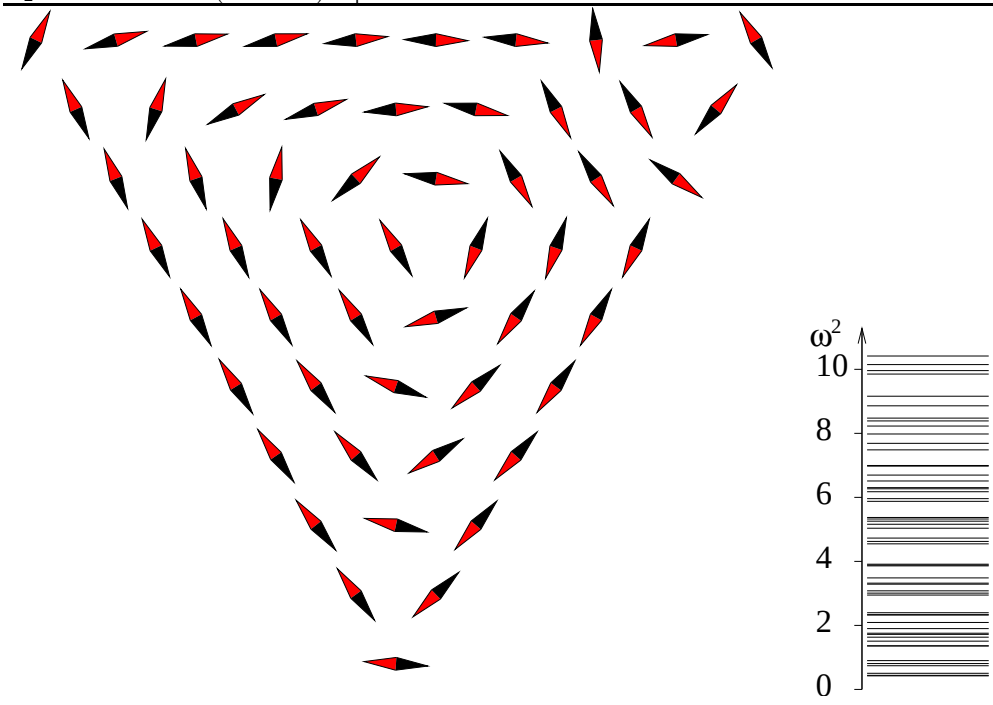
Anzahl Gitterpunkte: 55, Gefundene Energie-Niveaus: 566, Läufe: 3000



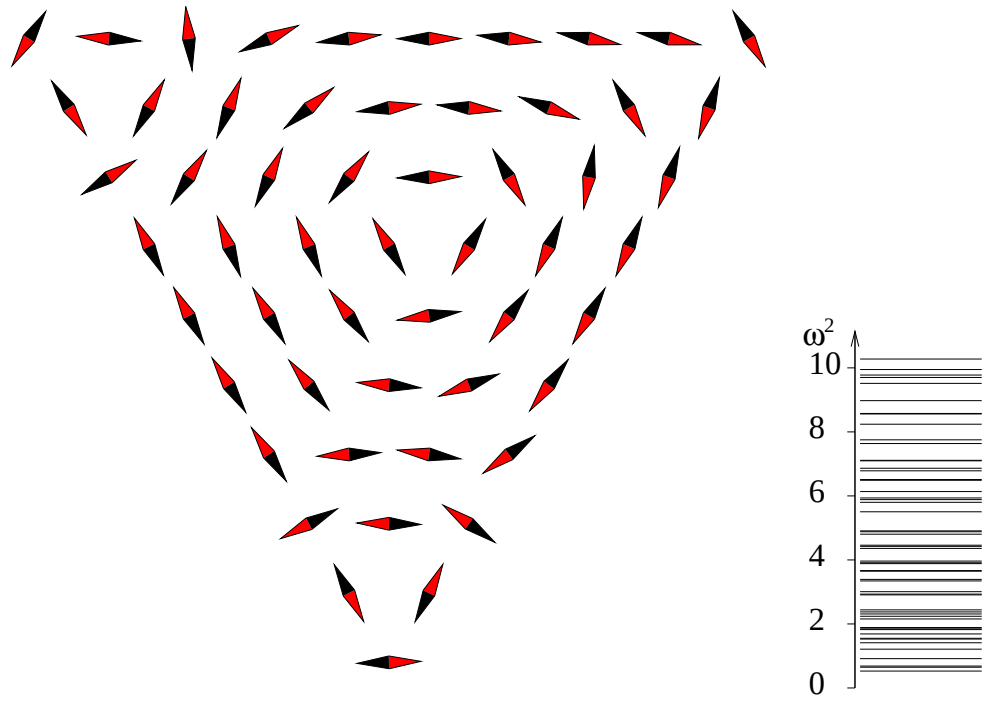
$E_1 = -131.24786$ (340 mal) $\omega_1^2 = 0.45590$



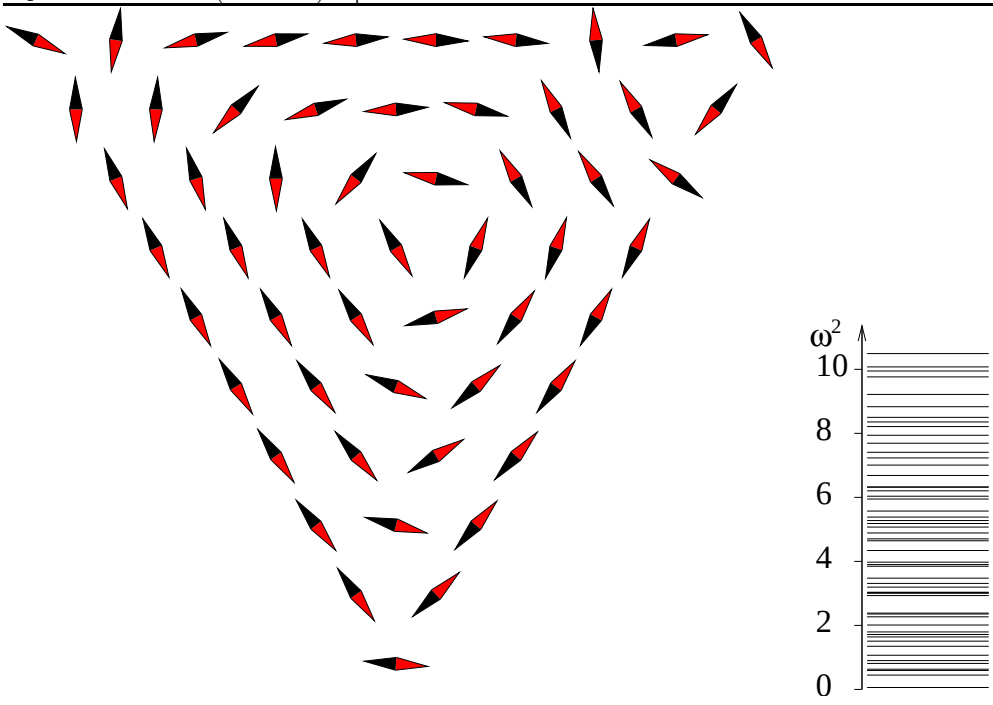
$E_2 = -130.36160$ (305 mal) $\omega_1^2 = 0.27934$



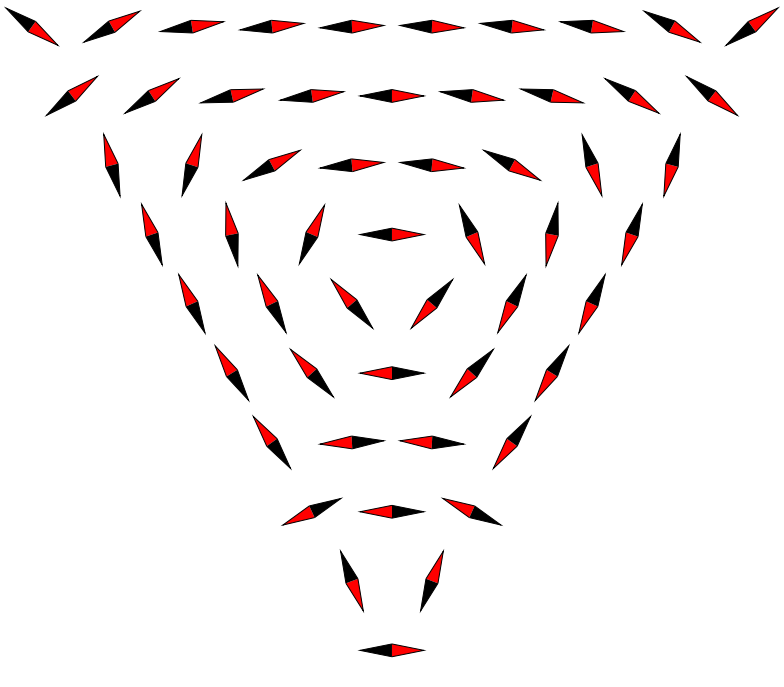
$E_3 = -129.71502$ (46 mal) $\omega_1^2 = 0.42479$



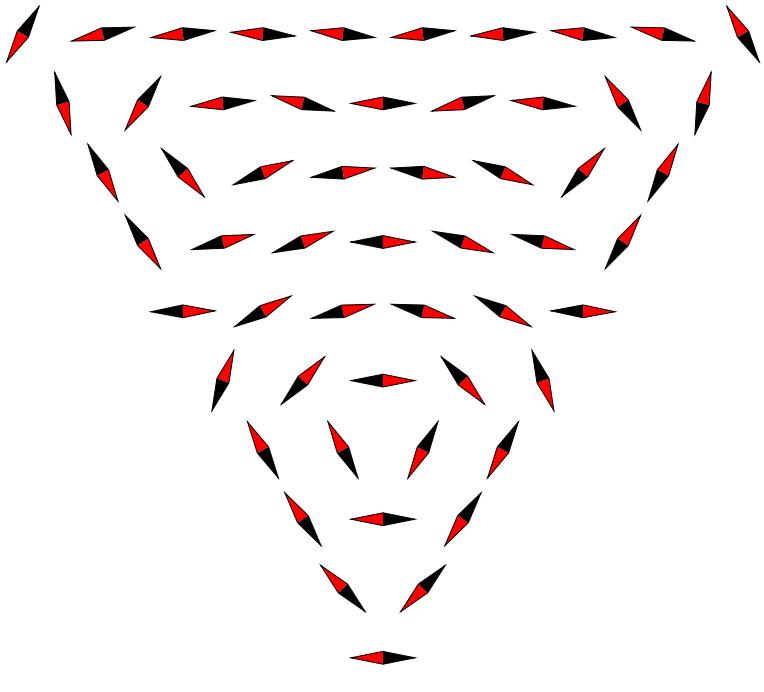
$E_4 = -129.40730$ (164 mal) $\omega_1^2 = 0.52638$



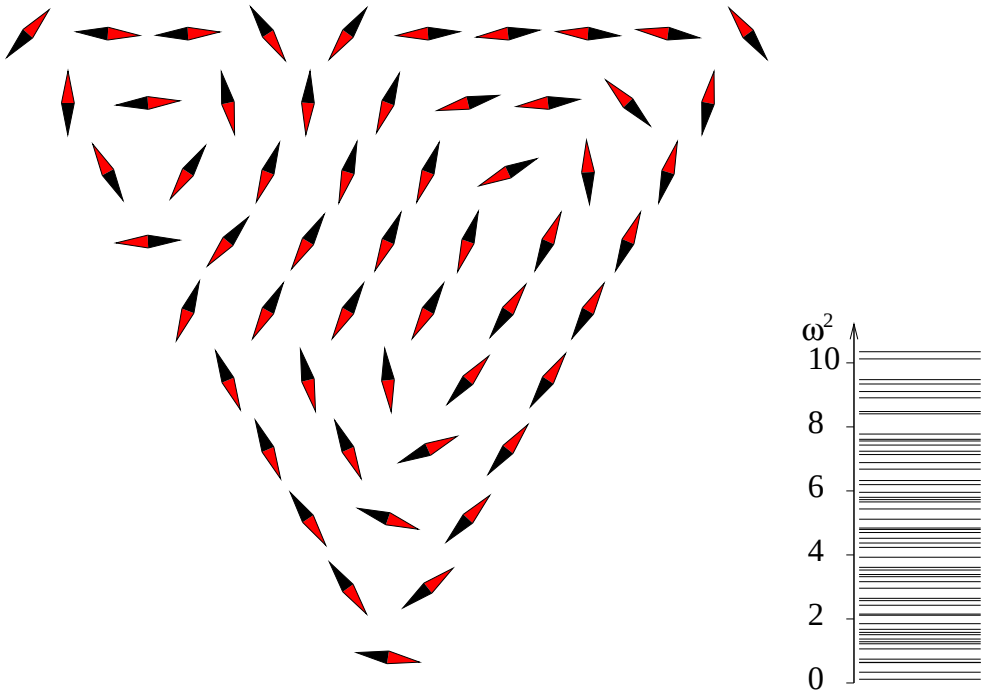
$E_5 = -129.24617$ (38 mal) $\omega_1^2 = 0.05951$



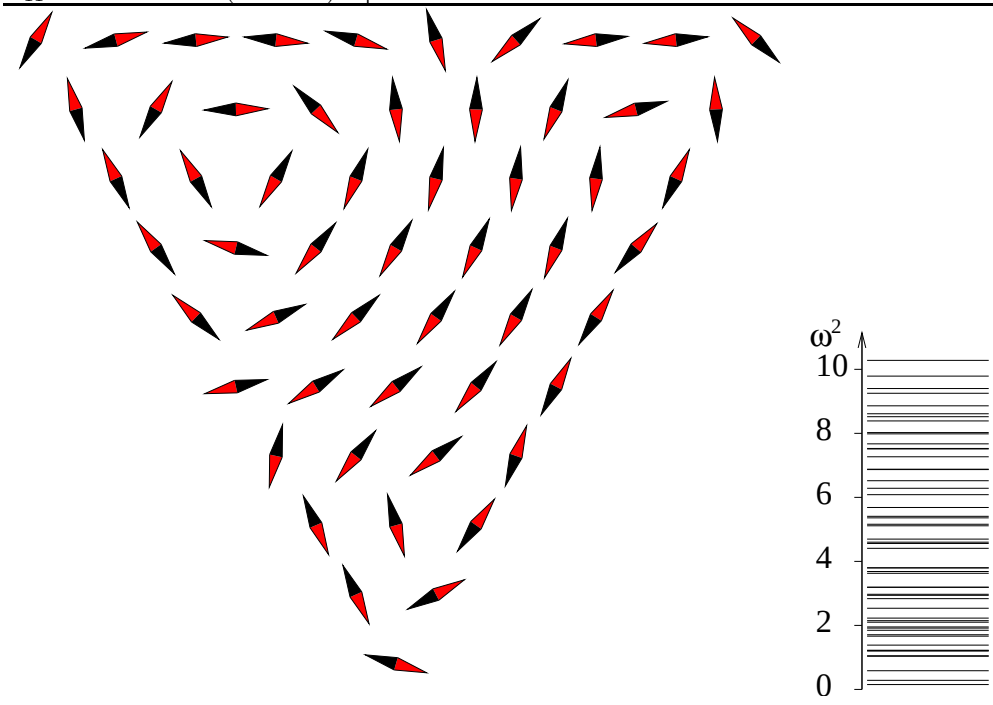
$E_6 = -128.80502$ (13 mal) $\omega_1^2 = 0.08874$



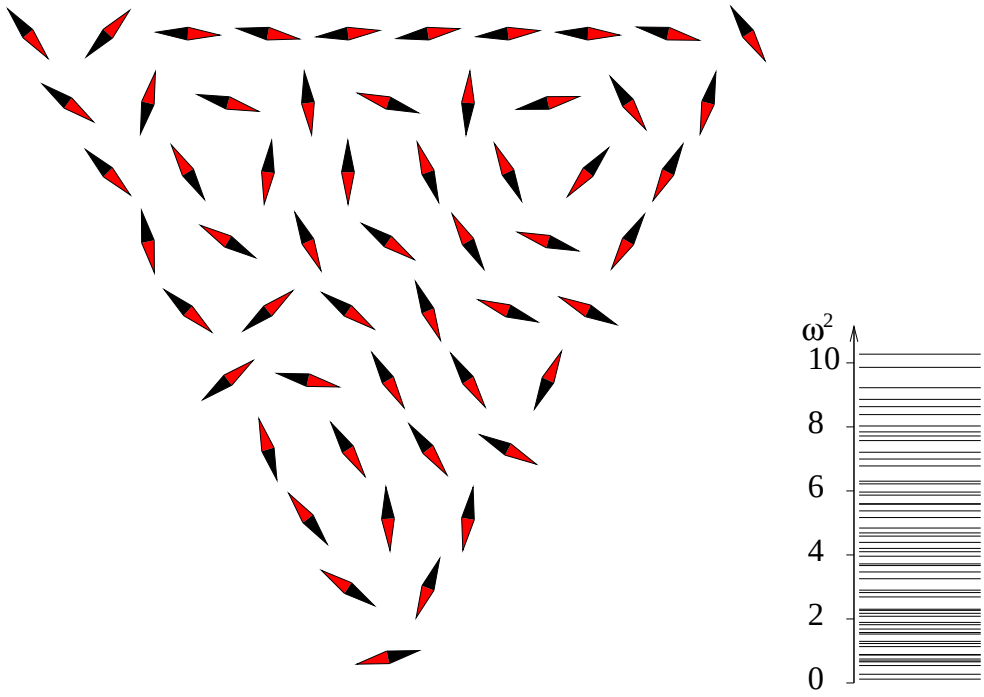
$E_8 = -128.33910$ (94 mal) $\omega_1^2 = 0.31139$



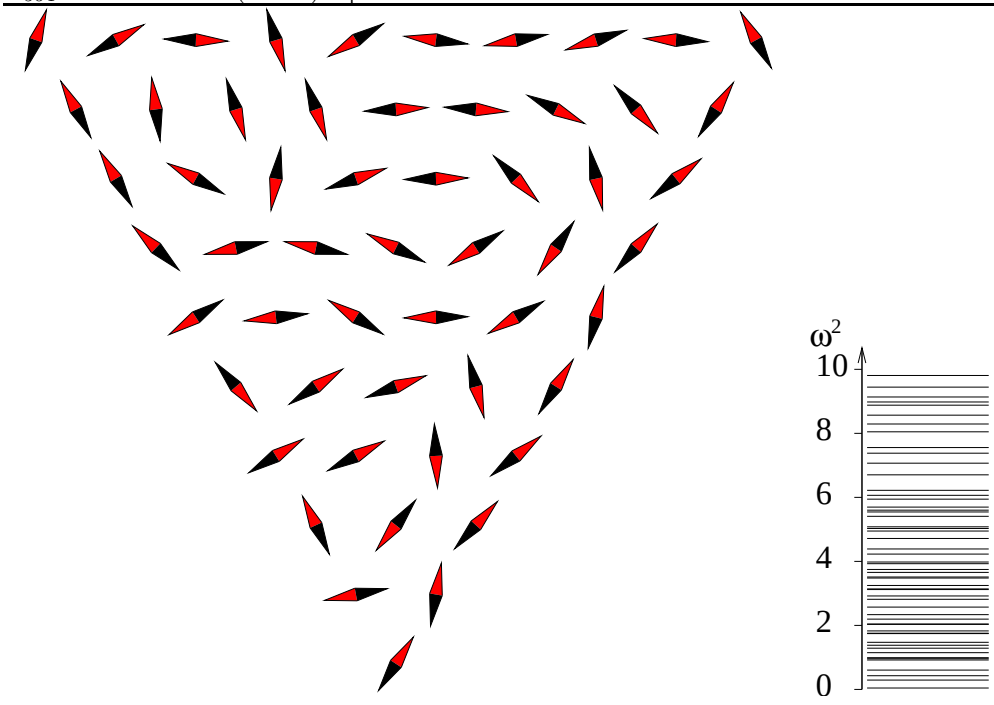
$E_{11} = -128.02632$ (126 mal) $\omega_1^2 = 0.11469$



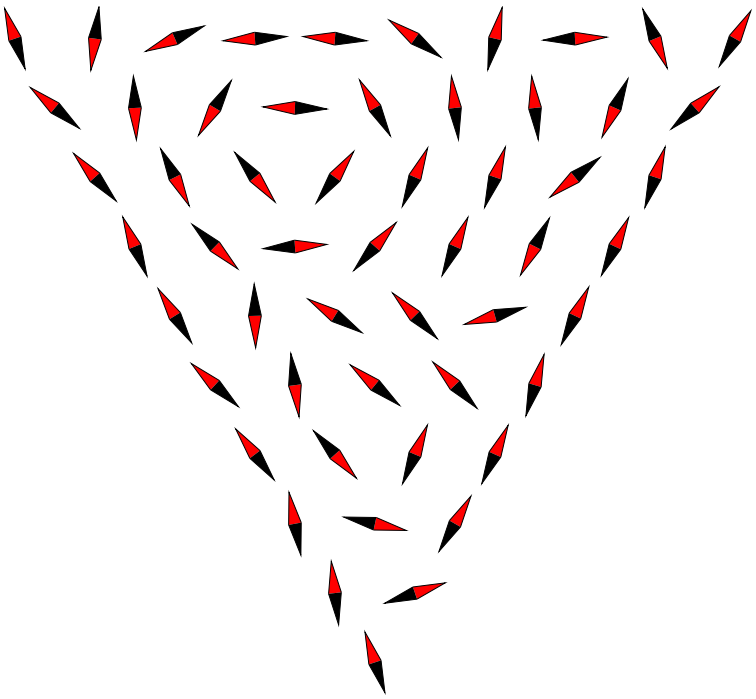
$E_{28} = -126.48750$ (67 mal) $\omega_1^2 = 0.15353$



$E_{564} = -116.27522$ (1 mal) $\omega_1^2 = 0.11828$

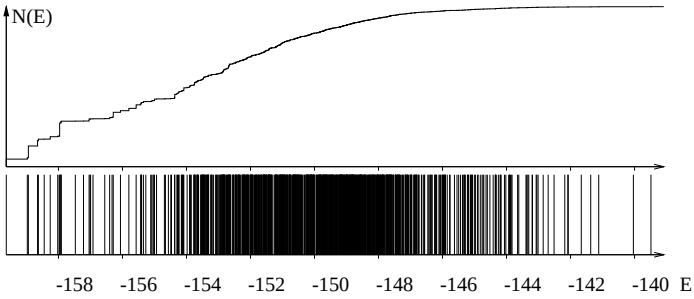


$E_{565} = -116.16285$ (1 mal) $\omega_1^2 = 0.04452$

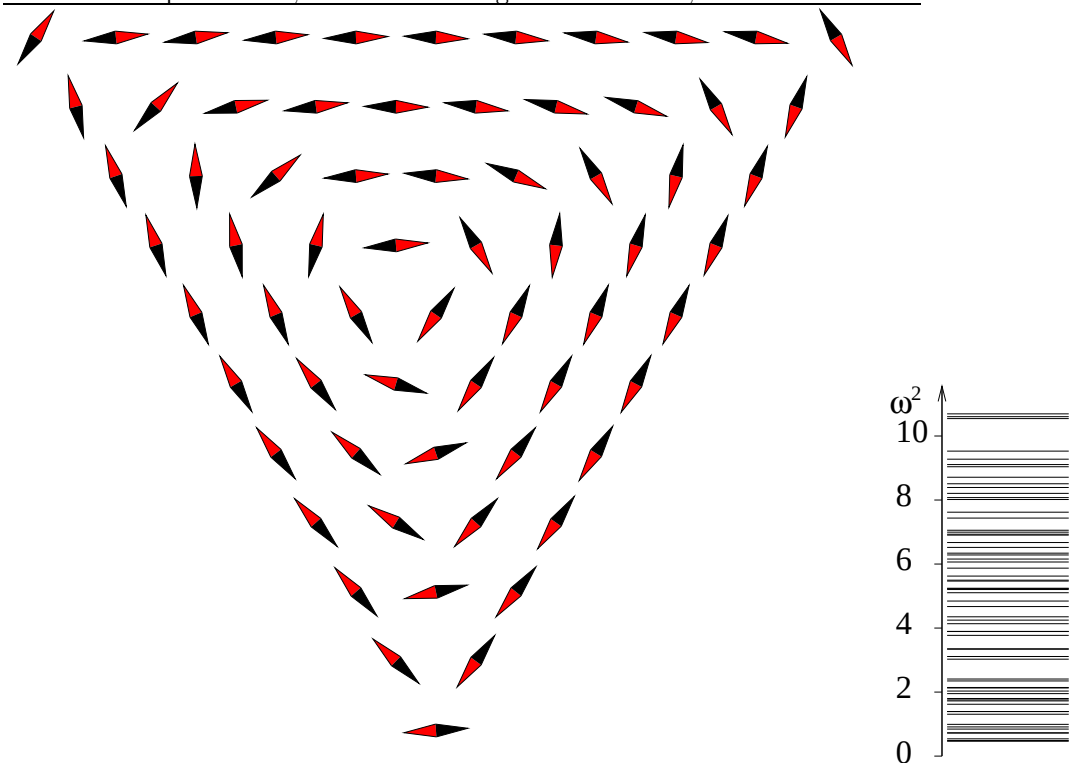


$E_{566} = -114.95218$ (1 mal) $\omega_1^2 = 0.06707$

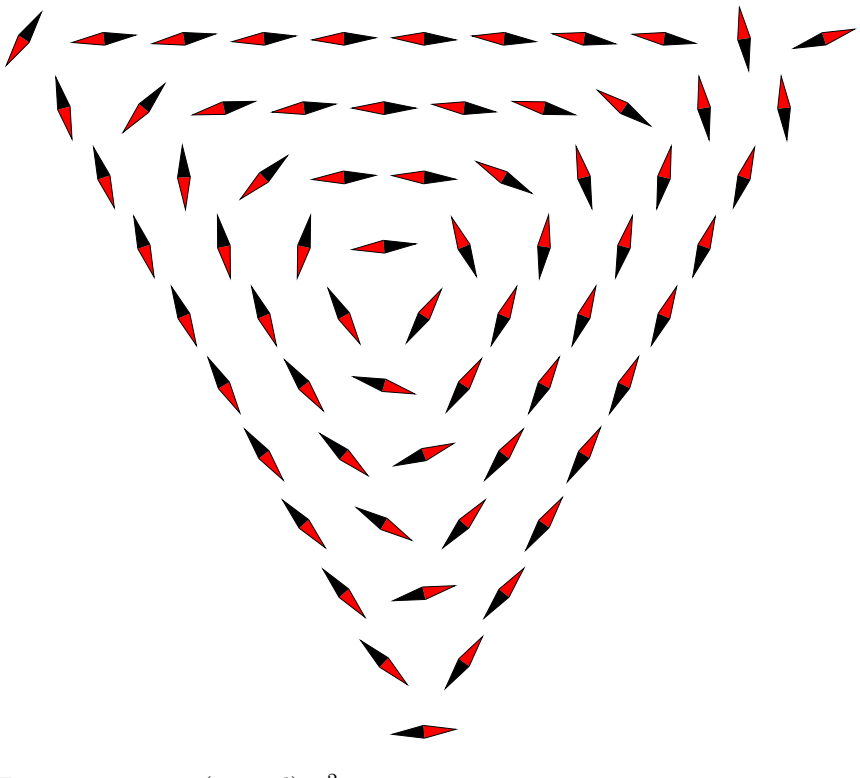
Dreiecks-Gitter (10,0)



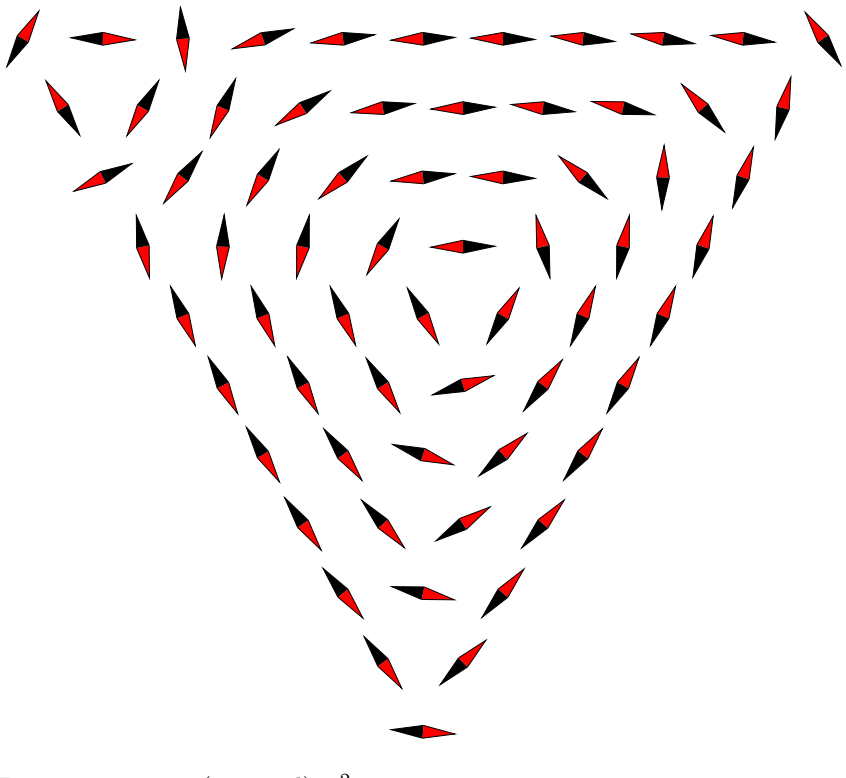
Anzahl Gitterpunkte: 66, Gefundene Energie-Niveaus: 843, Läufe: 3000



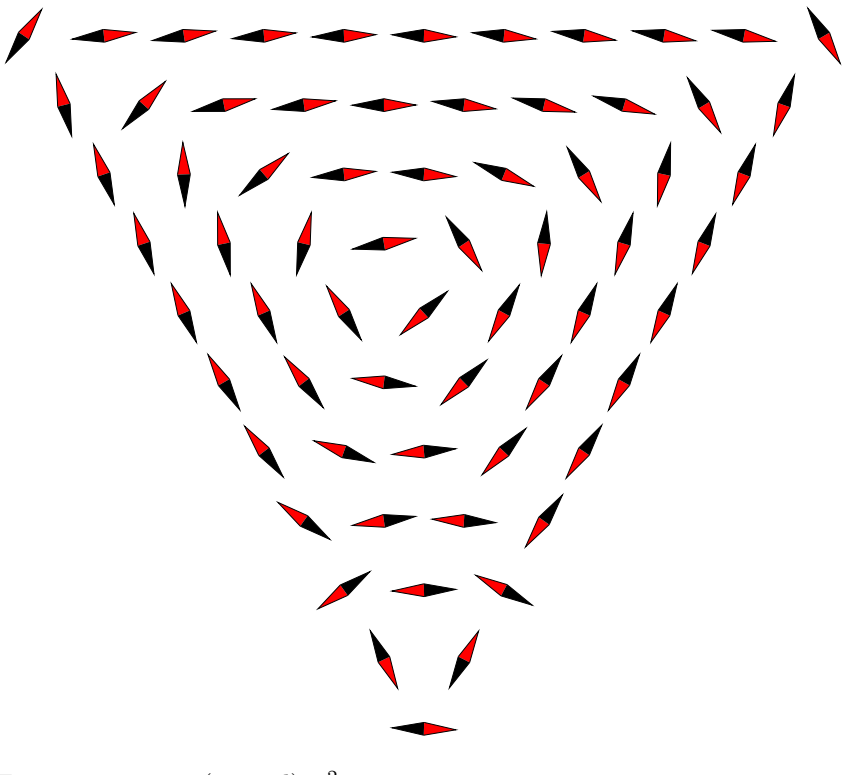
$E_1 = -159.63063$ (143 mal) $\omega_1^2 = 0.46446$



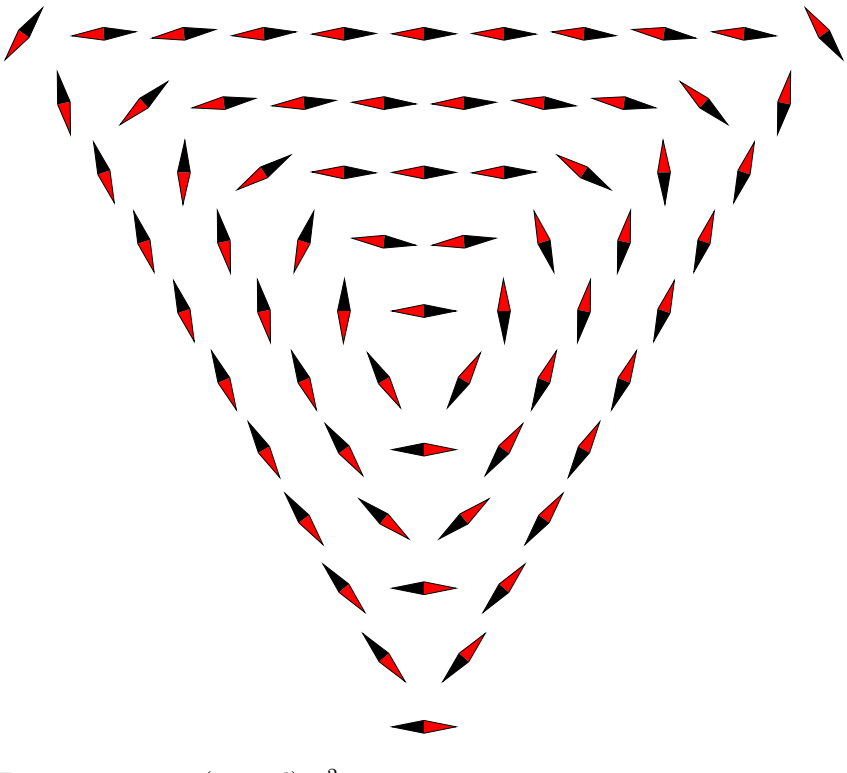
$E_2 = -158.97311$ (23 mal) $\omega_1^2 = 0.05940$



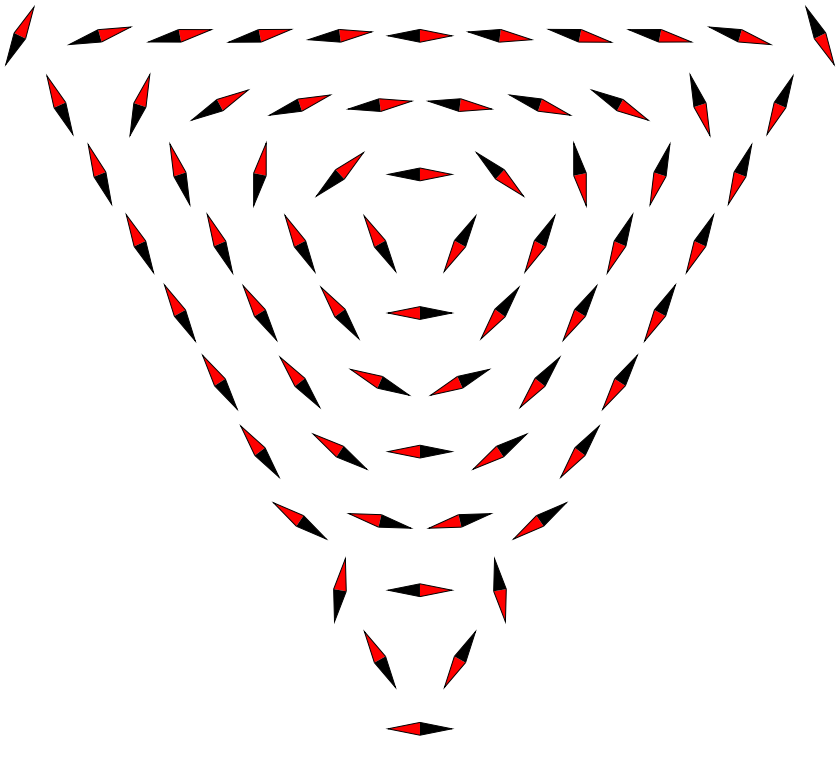
$E_3 = -158.94109$ (223 mal) $\omega_1^2 = 0.46808$



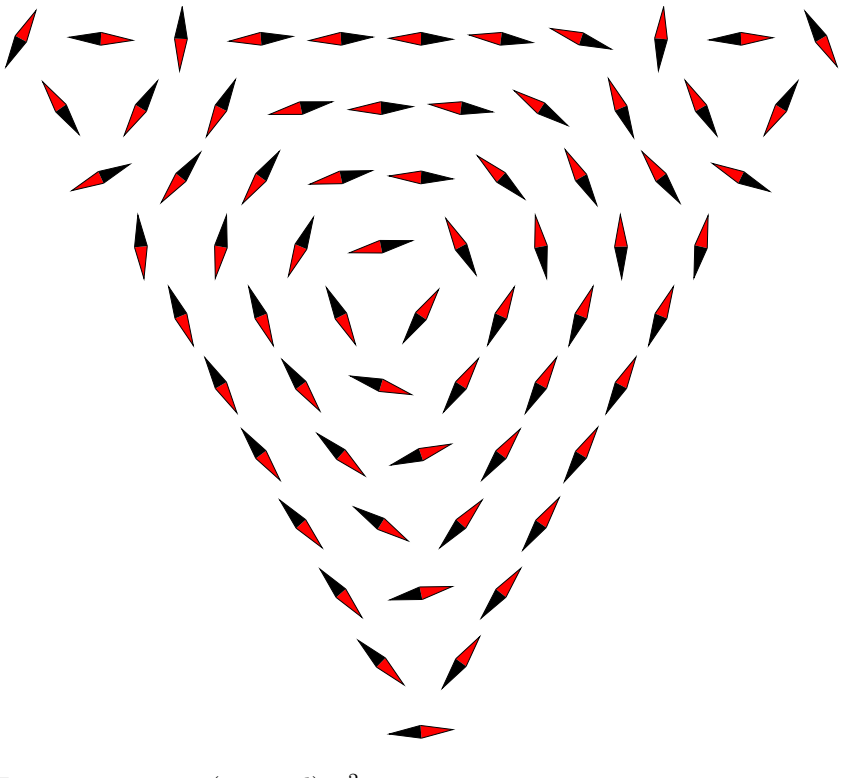
$E_4 = -158.65416$ (99 mal) $\omega_1^2 = 0.39071$



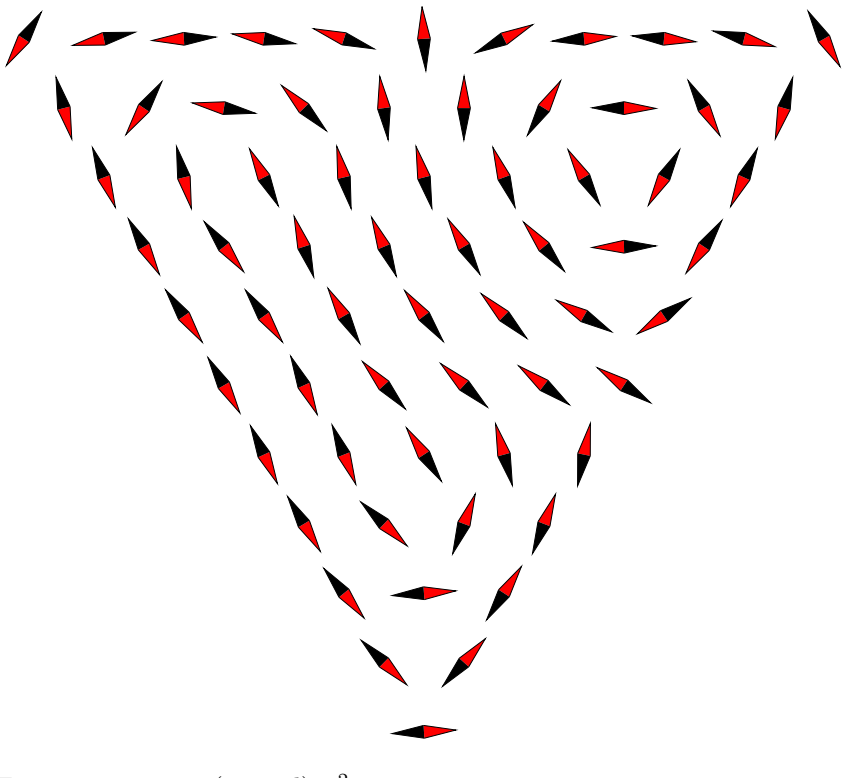
$E_5 = -158.62914$ (28 mal) $\omega_1^2 = 0.08523$



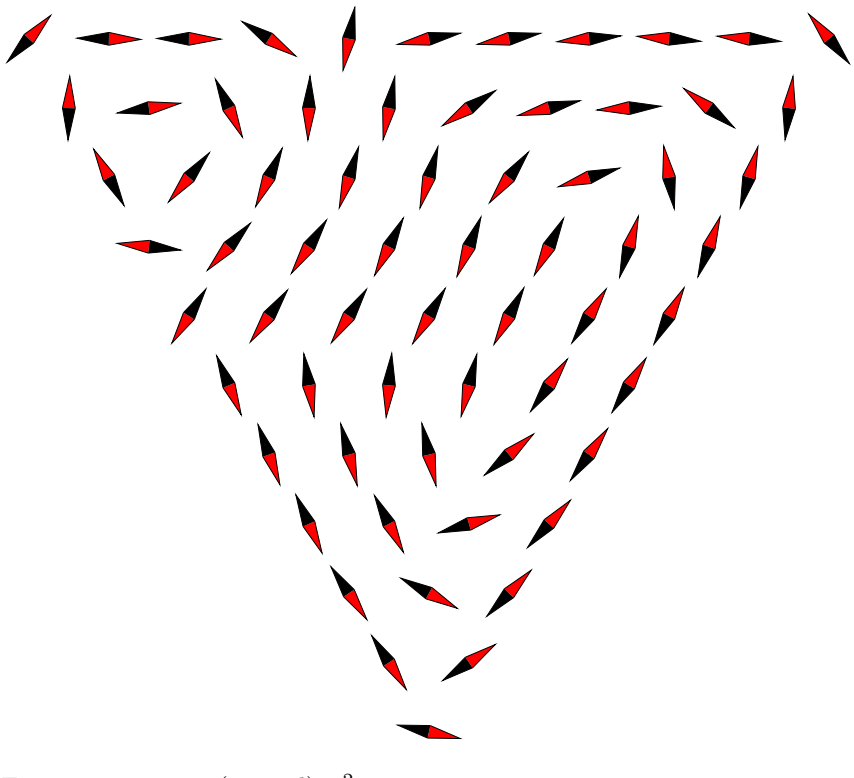
$E_6 = -158.44633$ (2 mal) $\omega_1^2 = 0.12716$



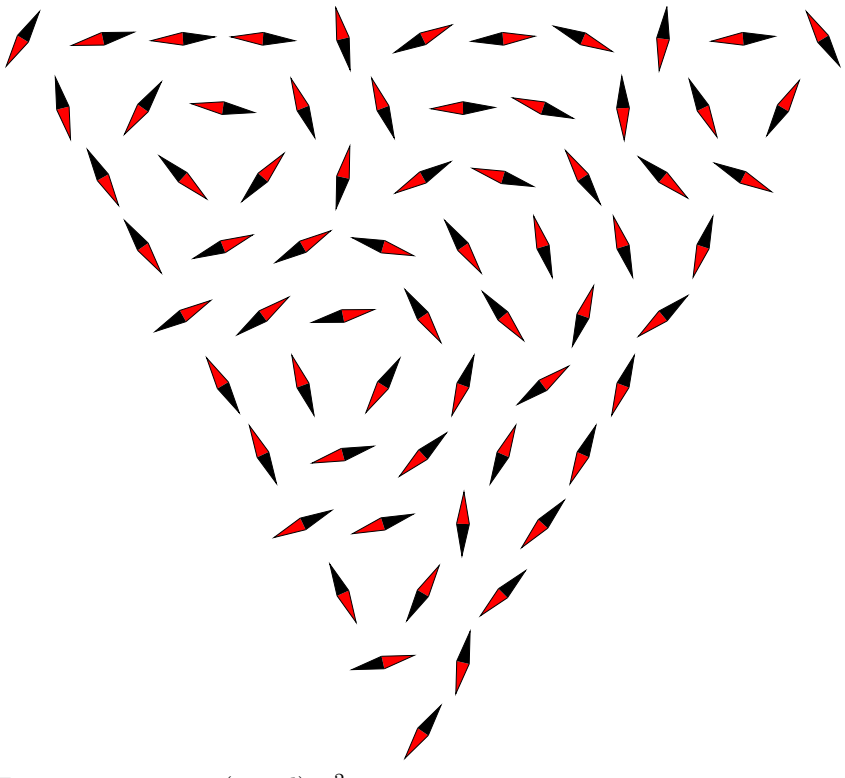
$E_{10} = -157.96363$ (244 mal) $\omega_1^2 = 0.47581$



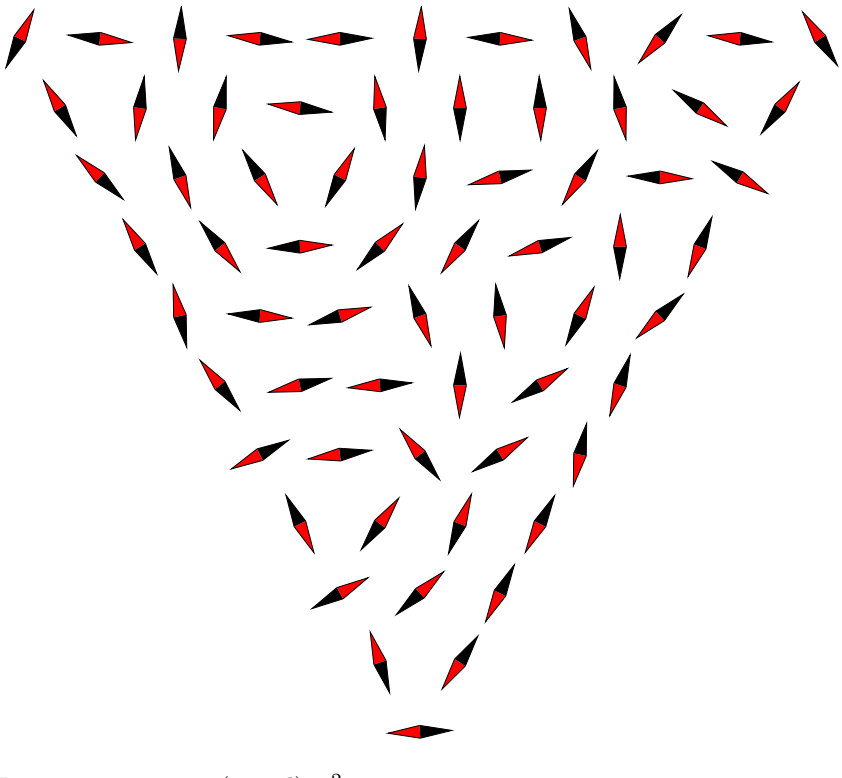
$E_{23} = -156.28728$ (91 mal) $\omega_1^2 = 0.08881$



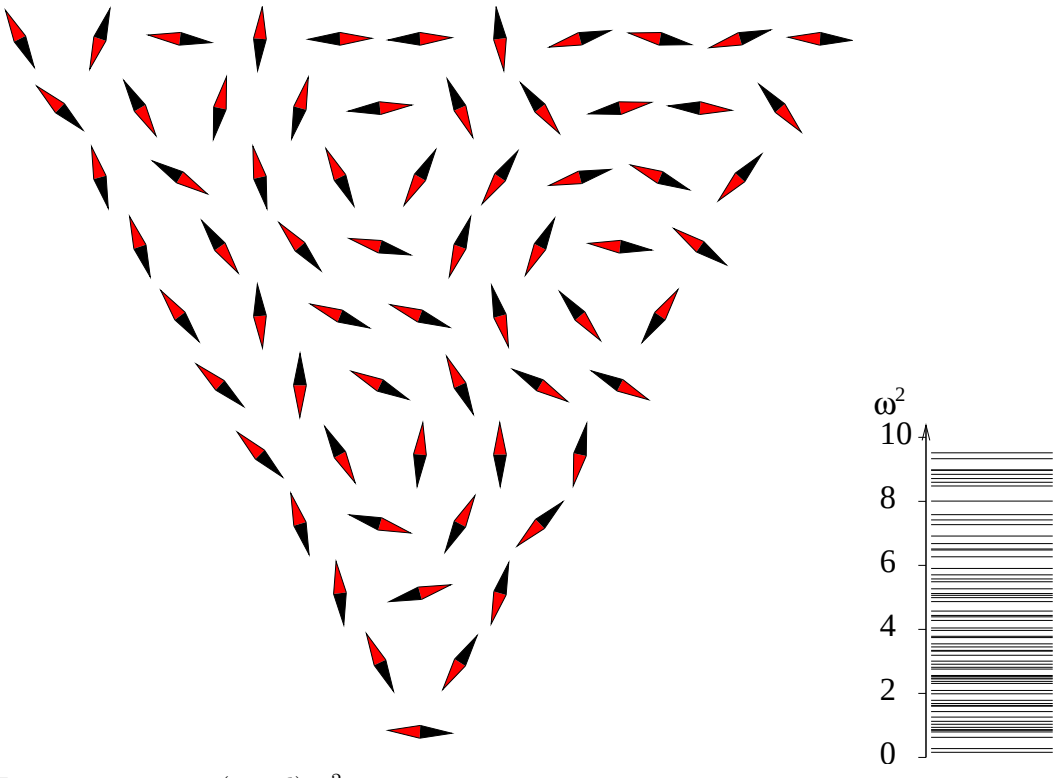
$E_{26} = -155.57244$ (66 mal) $\omega_1^2 = 0.11827$



$E_{841} = -141.12077$ (1 mal) $\omega_1^2 = 0.16855$

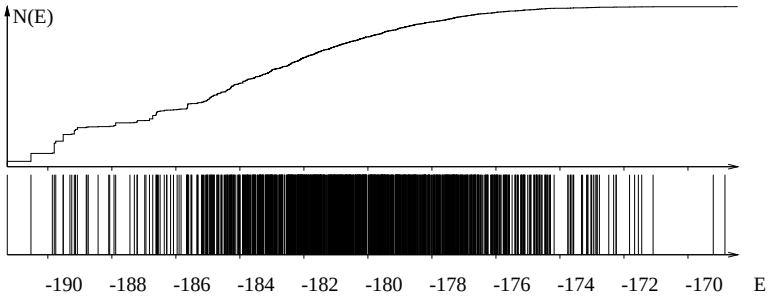


$E_{842} = -140.03847$ (1 mal) $\omega_1^2 = 0.17857$

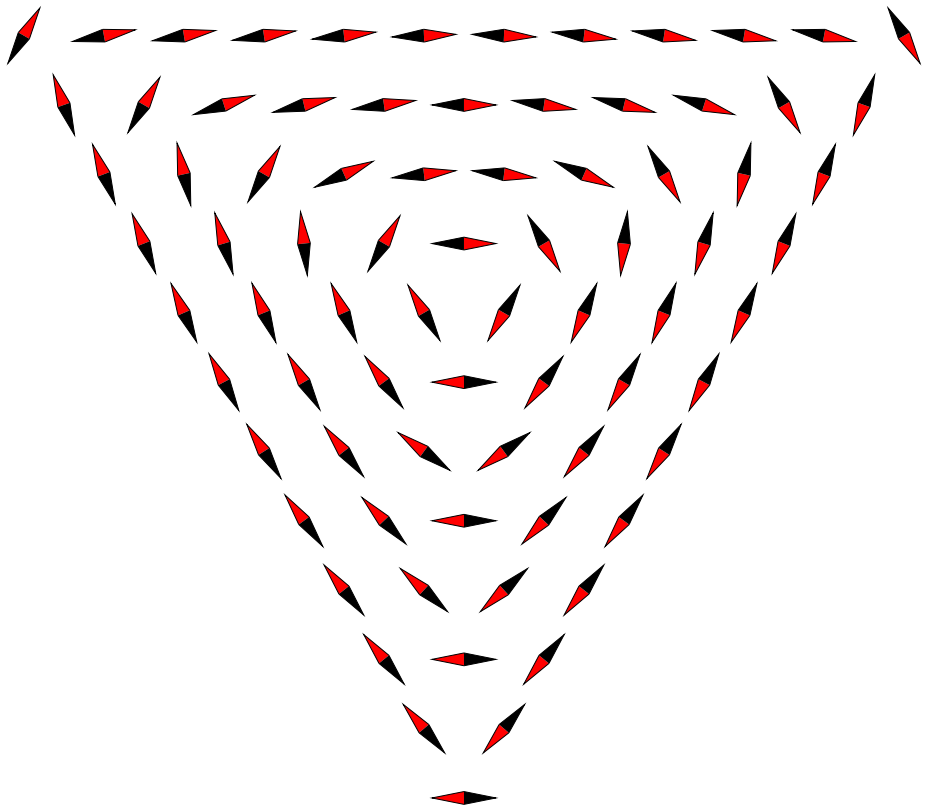


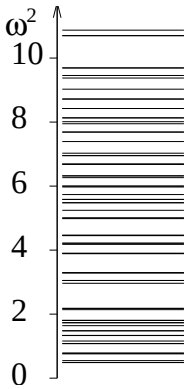
$E_{843} = -139.48883$ (1 mal) $\omega_1^2 = 0.16123$

Dreiecks-Gitter (11,0)

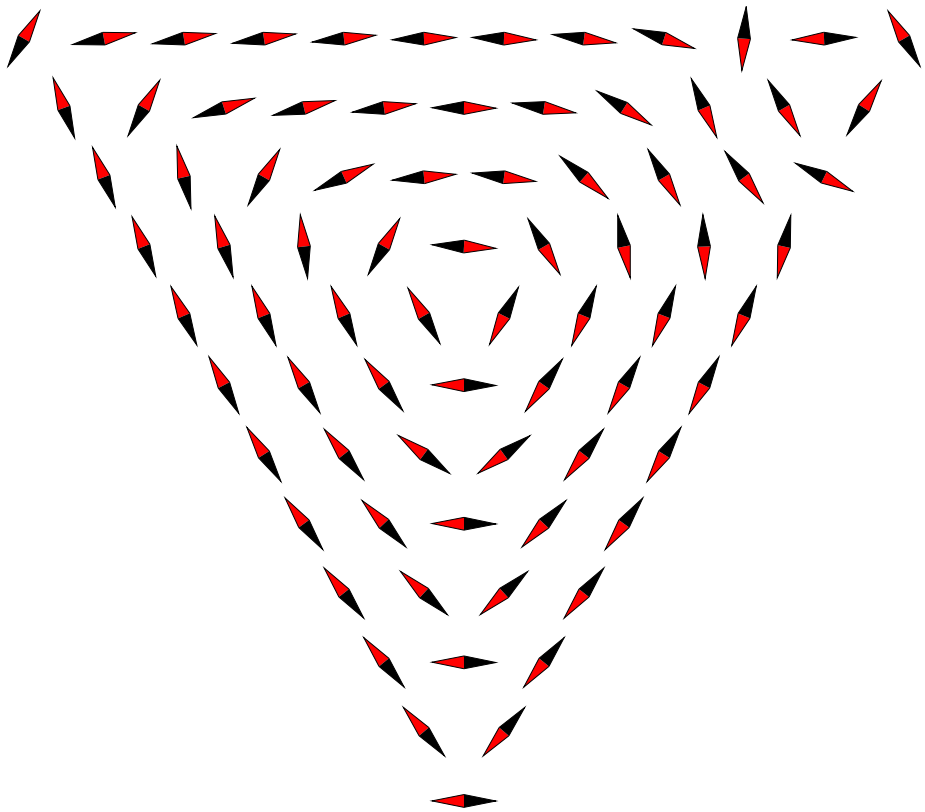


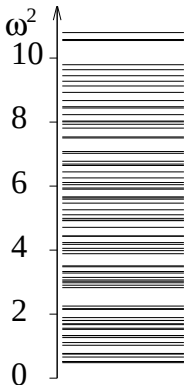
Anzahl Gitterpunkte: 78, Gefundene Energie-Niveaus: 1160, Läufe: 3000



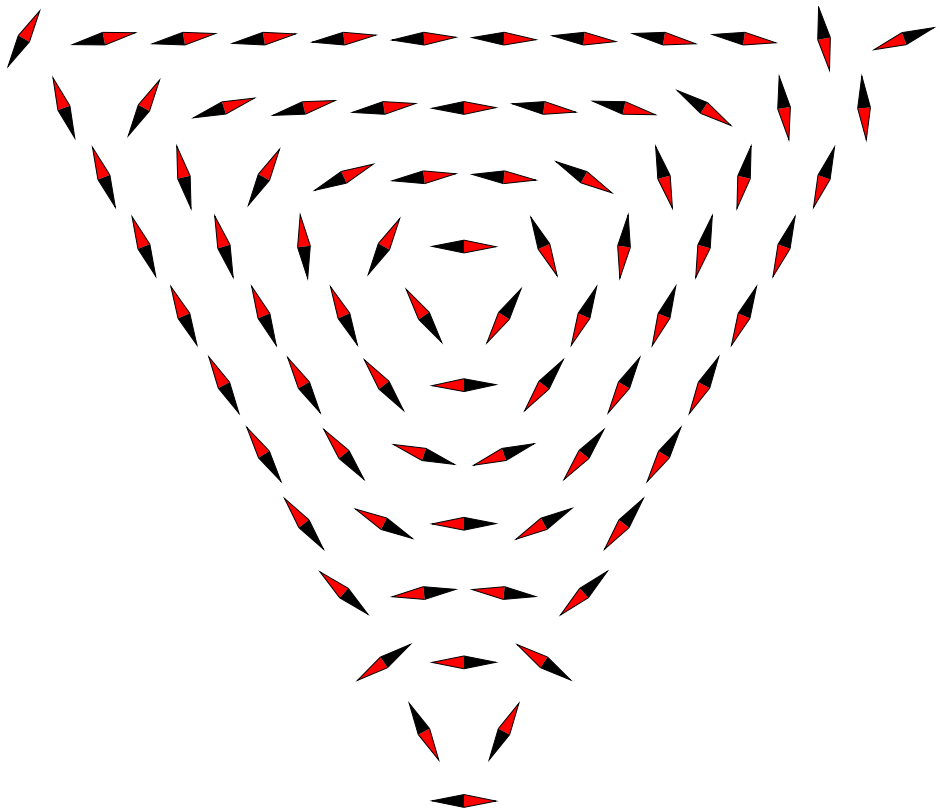


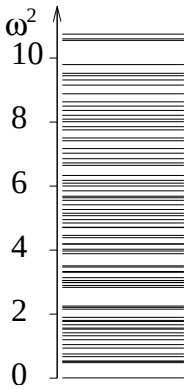
$E_1 = -191.26629$ (101 mal) $\omega_1^2 = 0.48880$



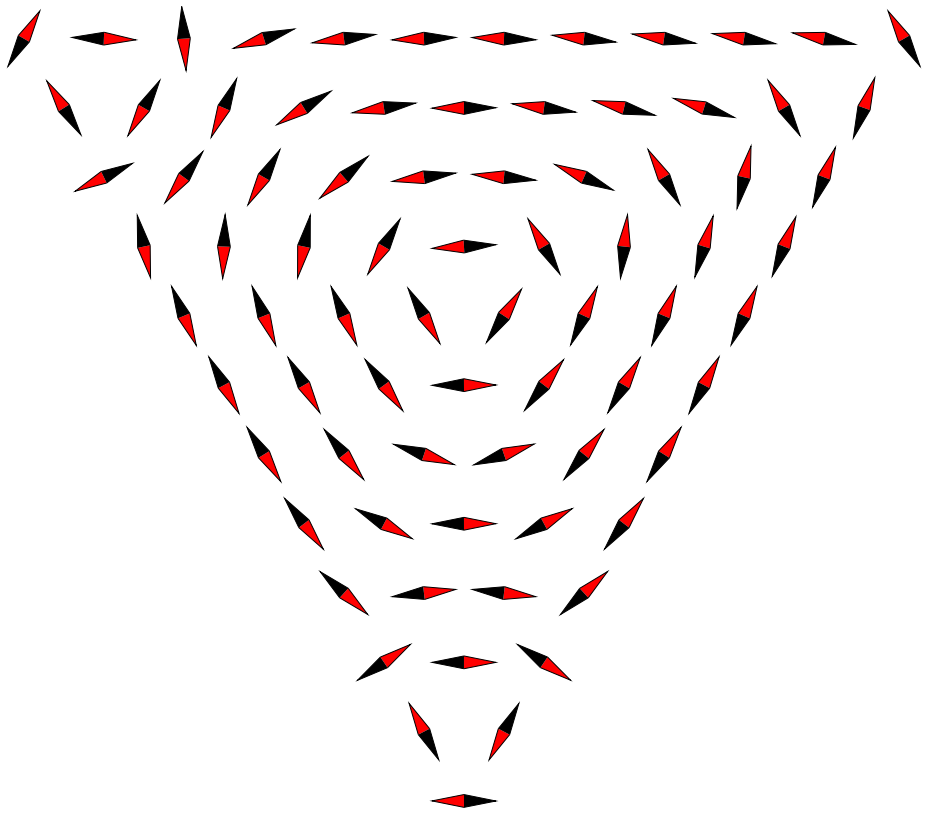


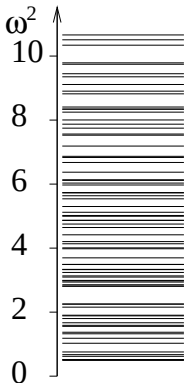
$E_2 = -190.52730$ (148 mal) $\omega_1^2 = 0.48283$



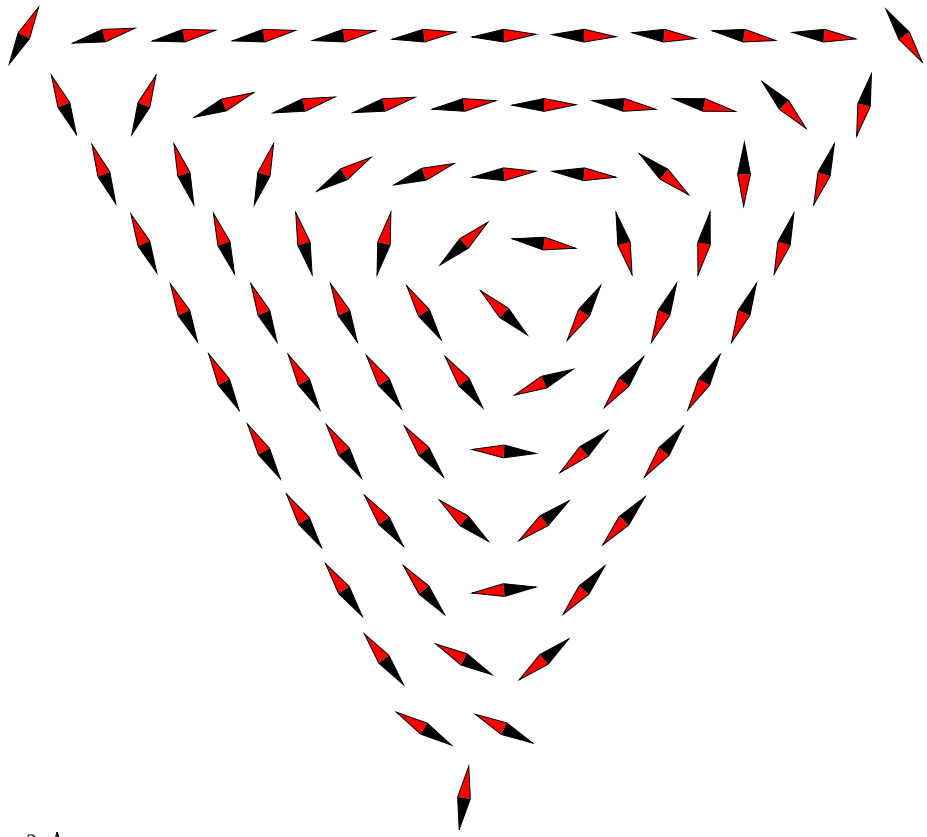


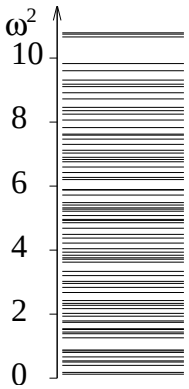
$E_3 = -189.85779$ (7 mal) $\omega_1^2 = 0.00937$



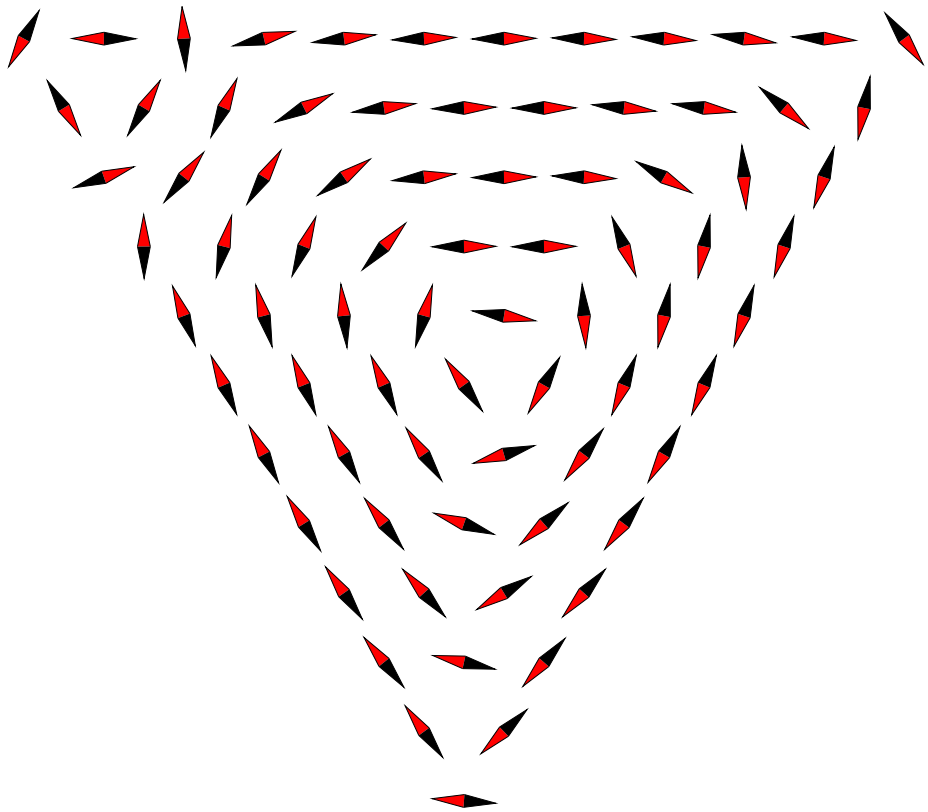


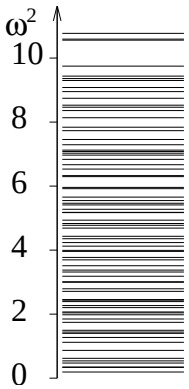
$E_4 = -189.79785$ (186 mal) $\omega_1^2 = 0.49199$



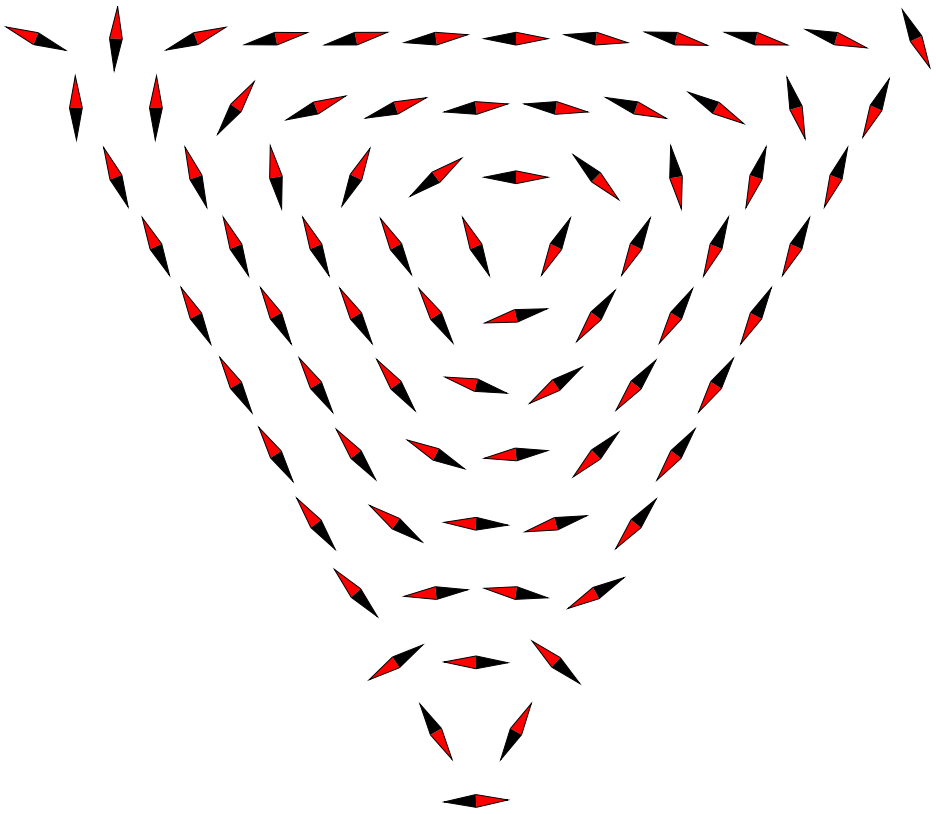


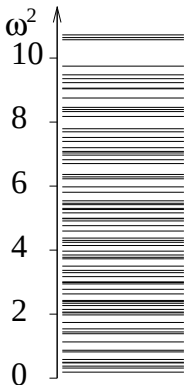
$E_5 = -189.75025$ (37 mal) $\omega_1^2 = 0.12464$



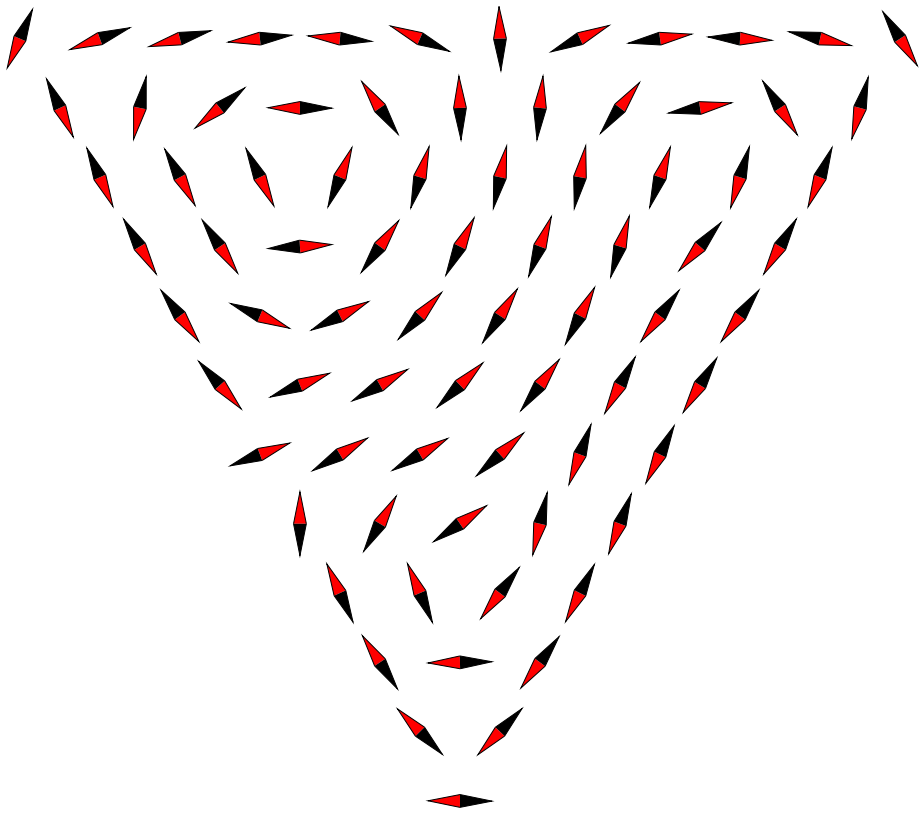


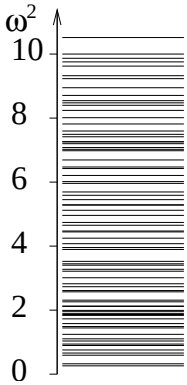
$E_6 = -189.52003$ (121 mal) $\omega_1^2 = 0.19066$



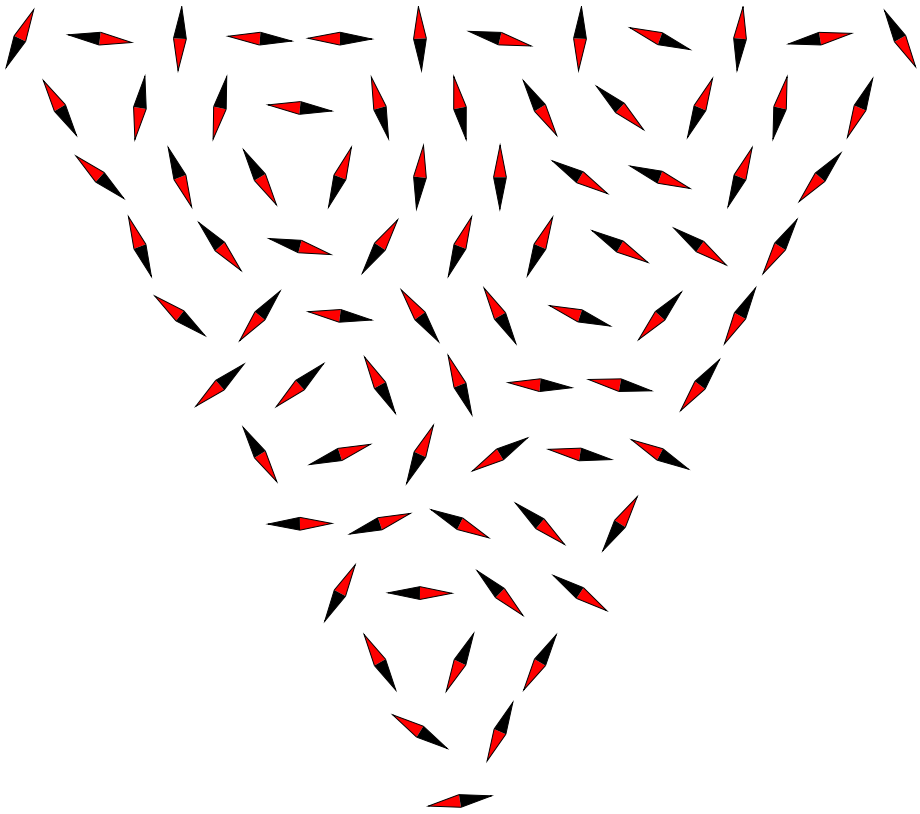


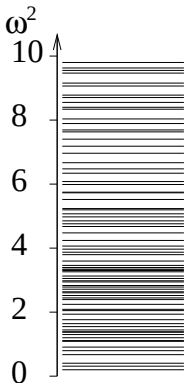
$E_{10} = -189.17101$ (65 mal) $\omega_1^2 = 0.18619$



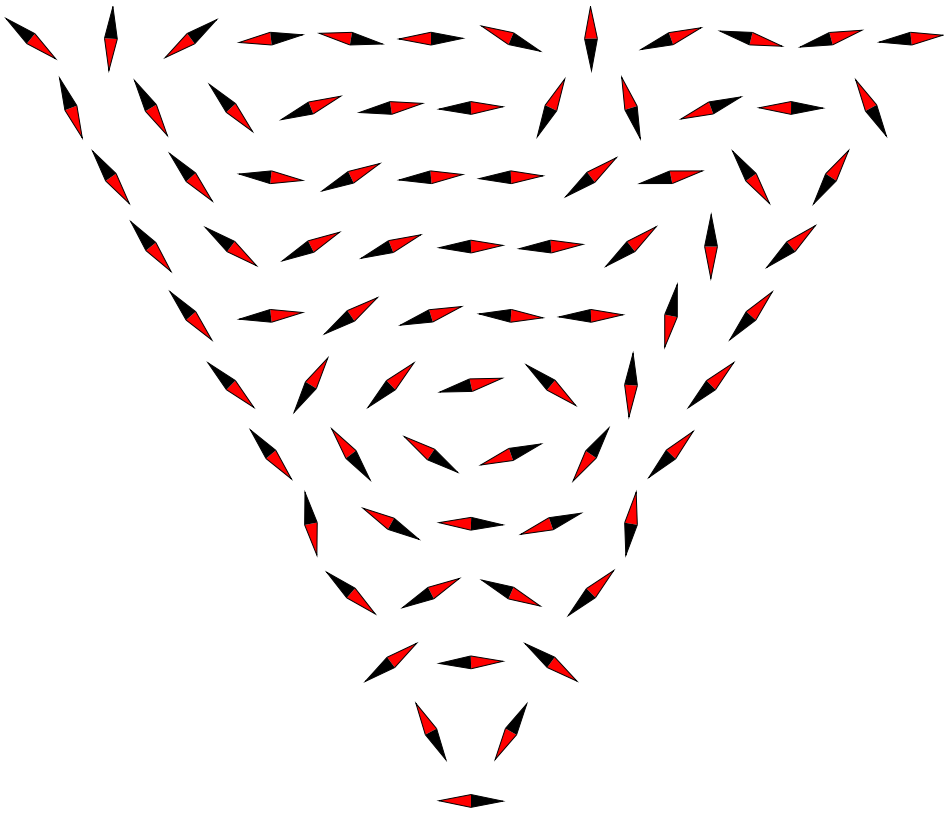


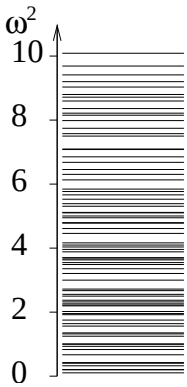
$E_{28} = -186.72144$ (63 mal) $\omega_1^2 = 0.26171$



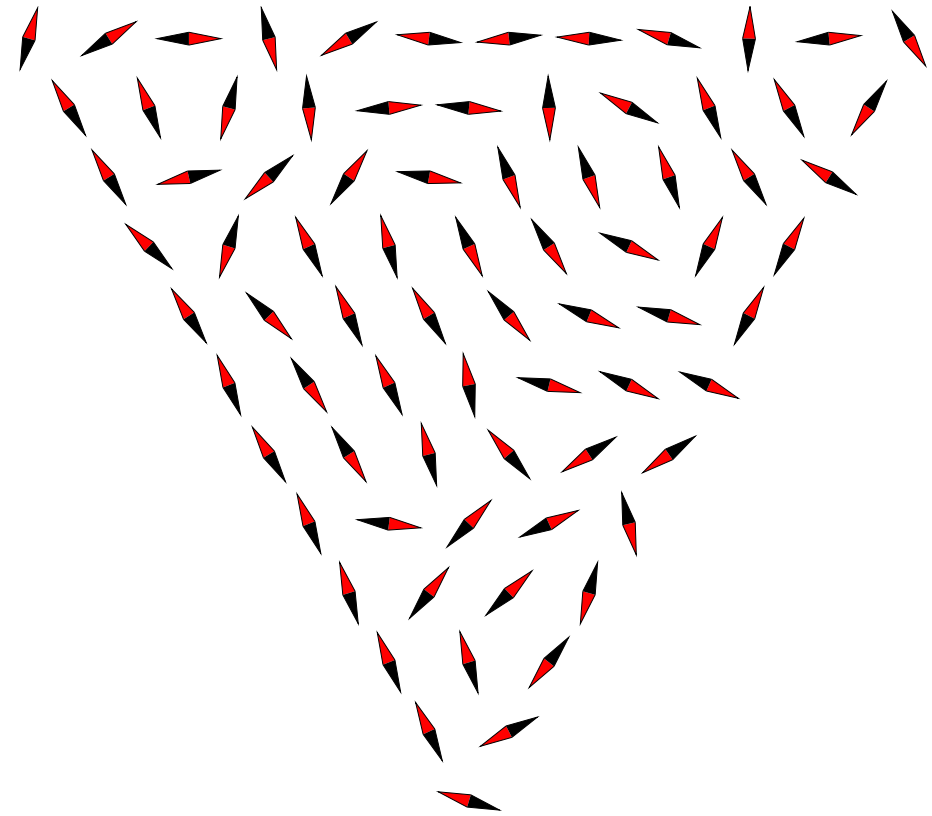


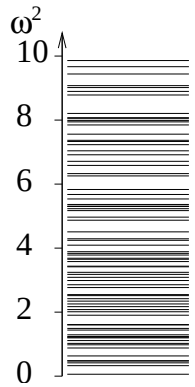
$E_{1158} = -171.08856$ (1 mal) $\omega_1^2 = 0.20143$





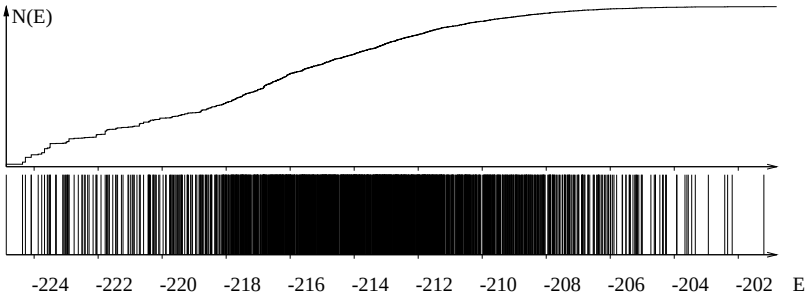
$E_{1159} = -169.20824$ (1 mal) $\omega_1^2 = 0.10514$



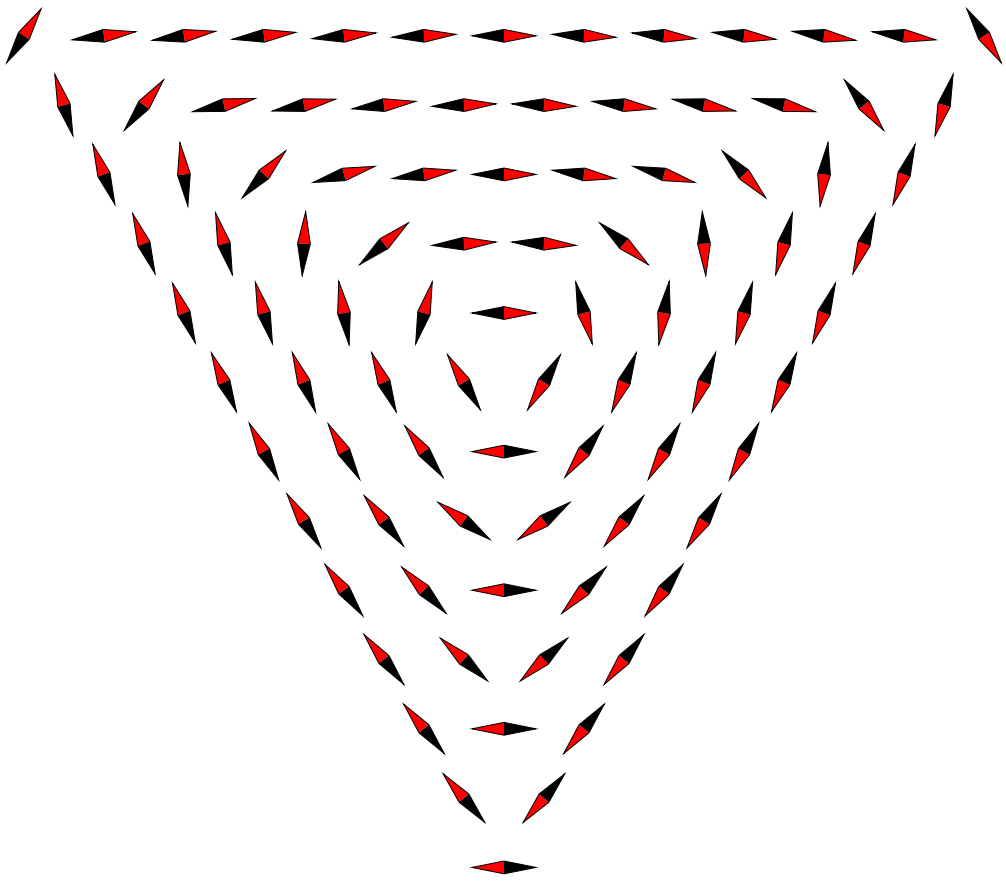


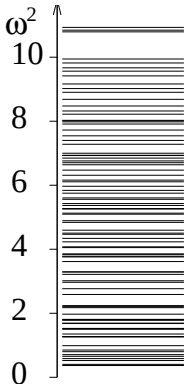
$E_{1160} = -168.84322$ (1 mal) $\omega_1^2 = 0.05862$

Dreiecks-Gitter (12,0)

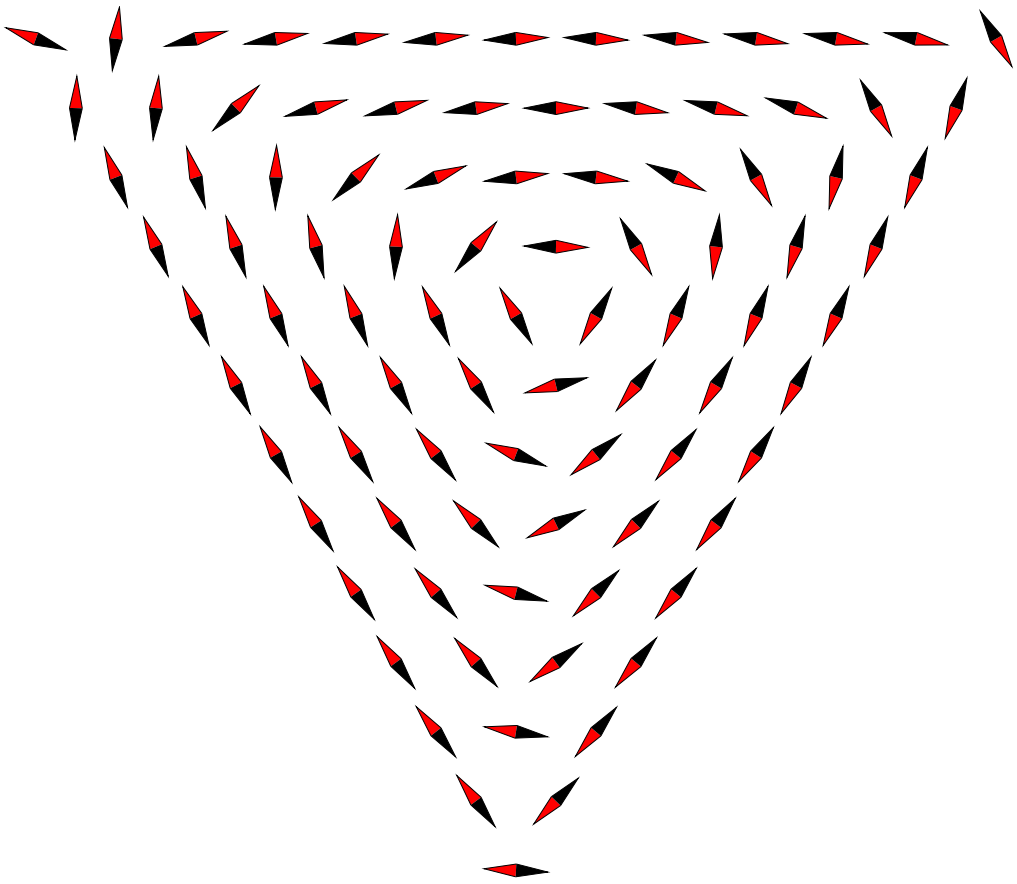


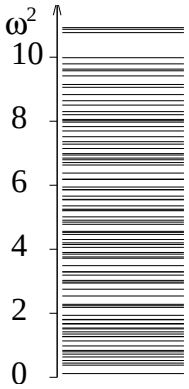
Anzahl Gitterpunkte: 91, Gefundene Energie-Niveaus: 1538, Läufe: 3000



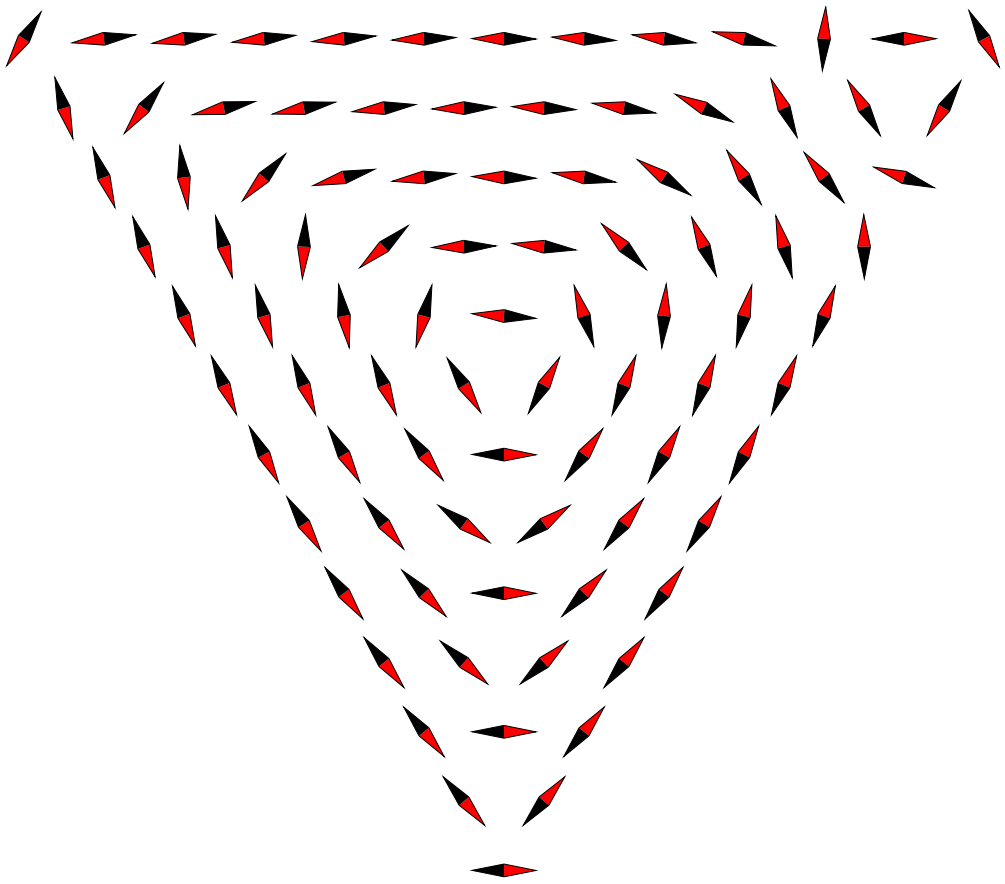


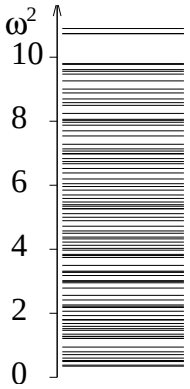
$E_1 = -224.87019$ (47 mal) $\omega_1^2 = 0.36907$



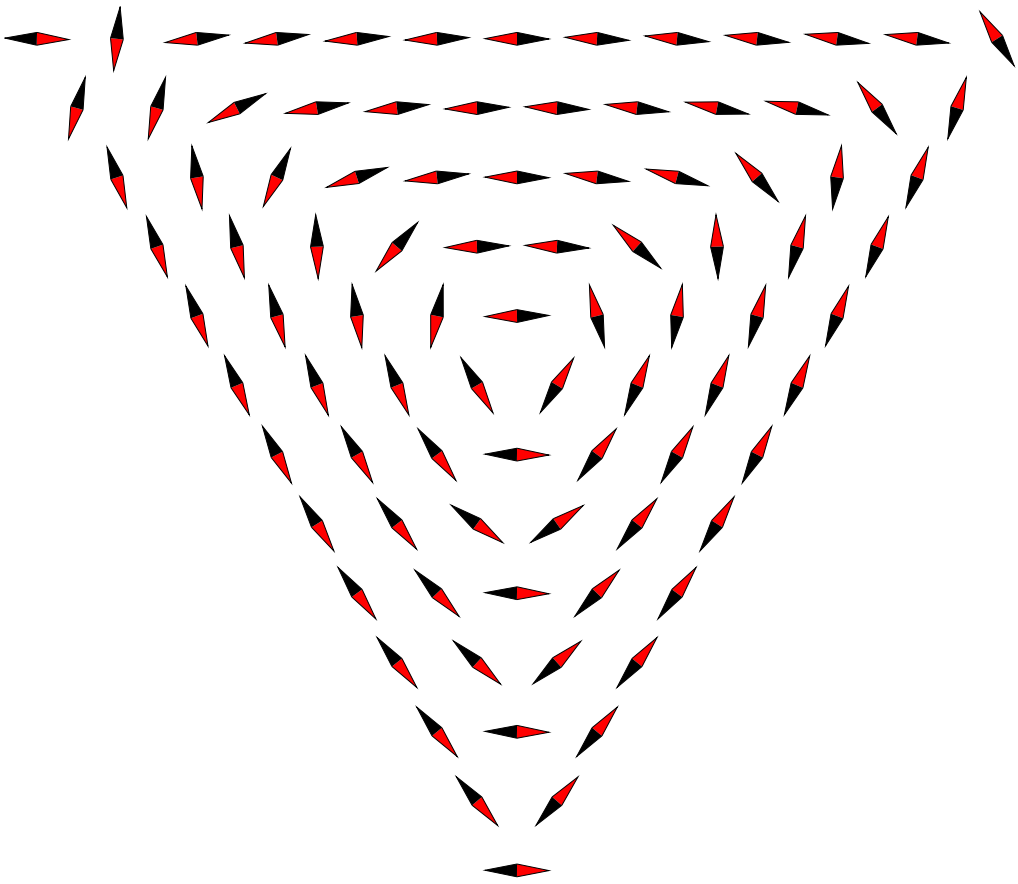


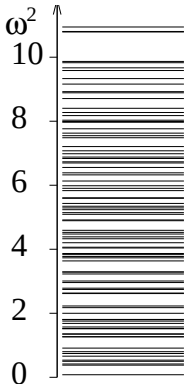
$E_2 = -224.36220$ (39 mal) $\omega_1^2 = 0.11751$



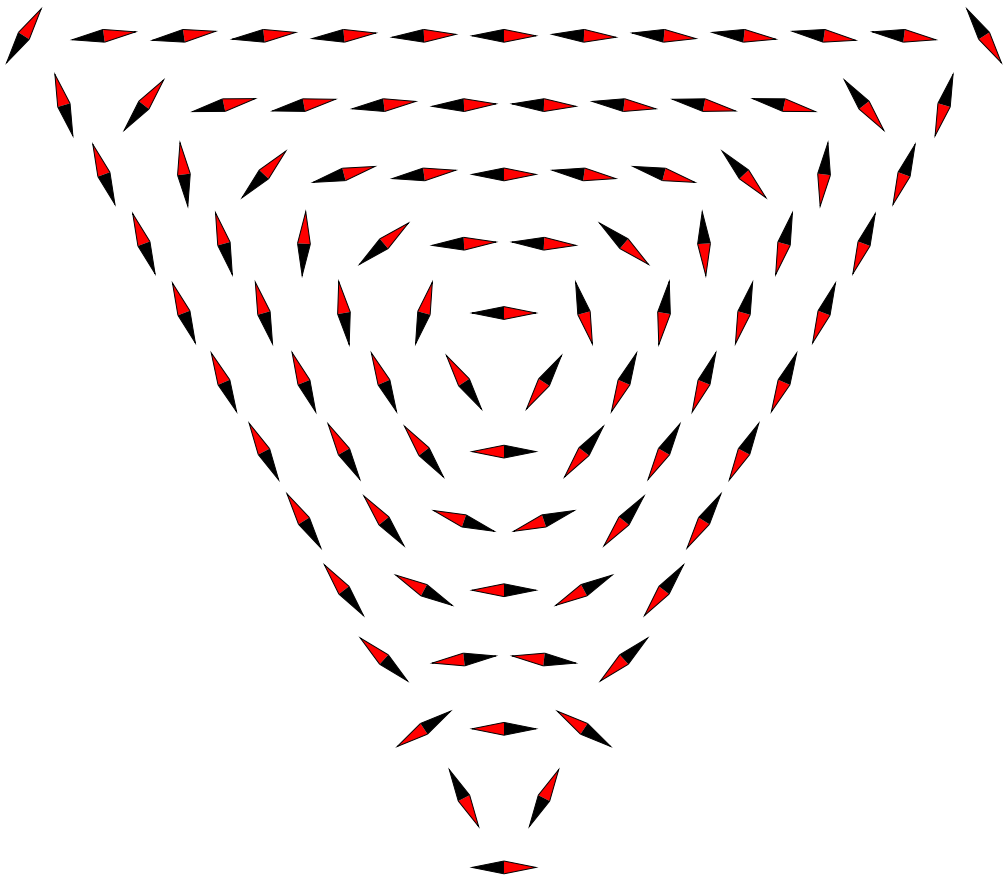


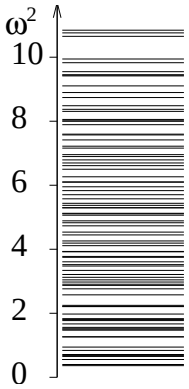
$E_3 = -224.27255$ (90 mal) $\omega_1^2 = 0.34871$



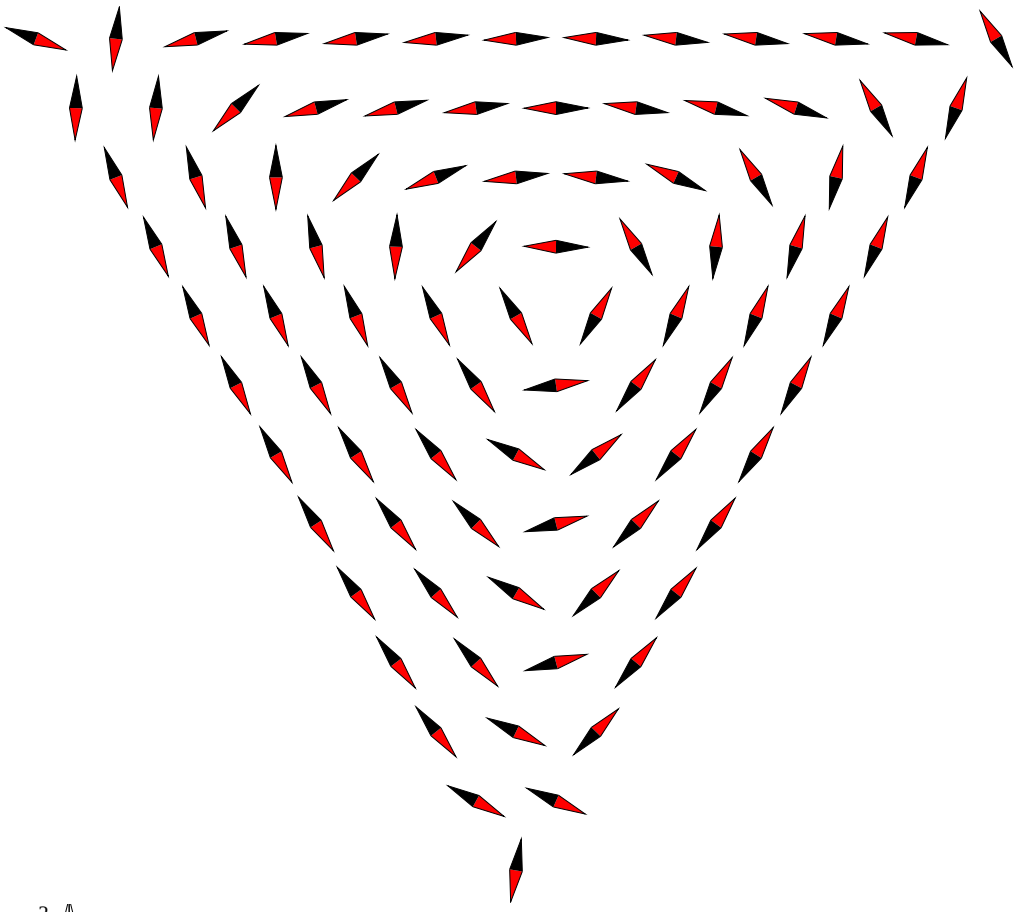


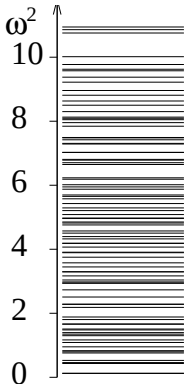
$E_4 = -224.09022$ (5 mal) $\omega_1^2 = 0.07881$



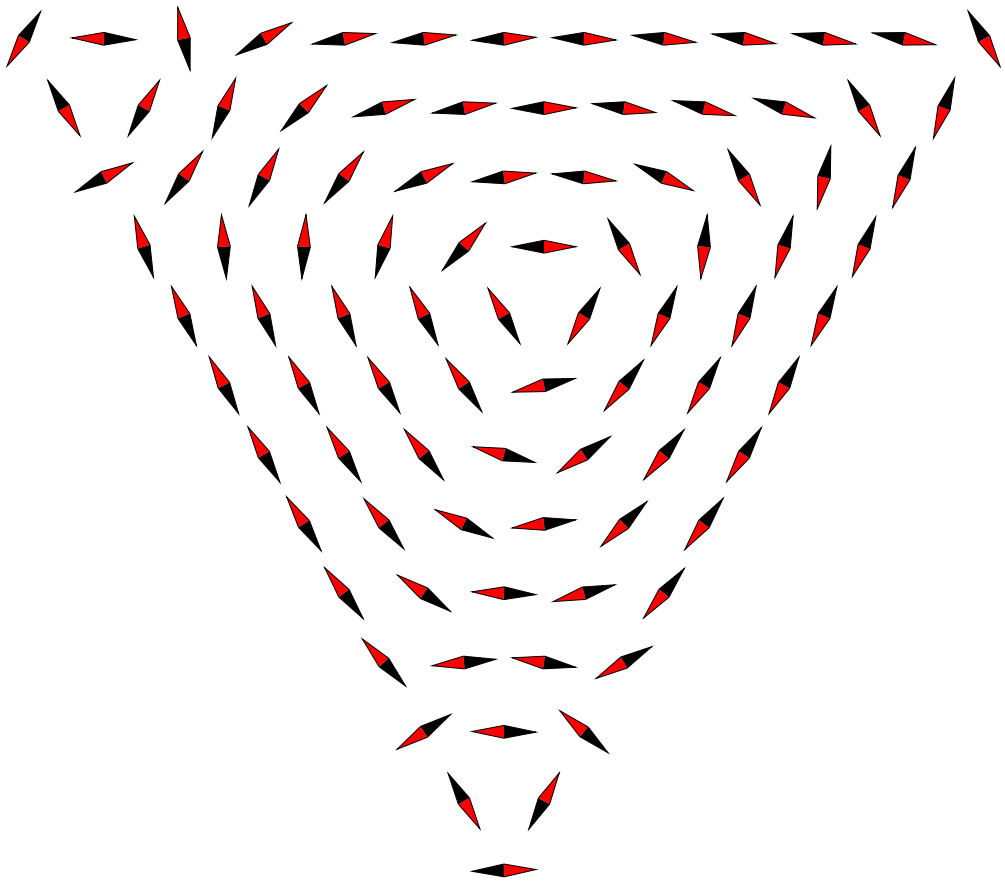


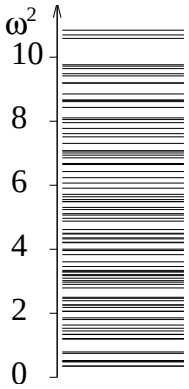
$E_5 = -224.08929$ (43 mal) $\omega_1^2 = 0.36246$



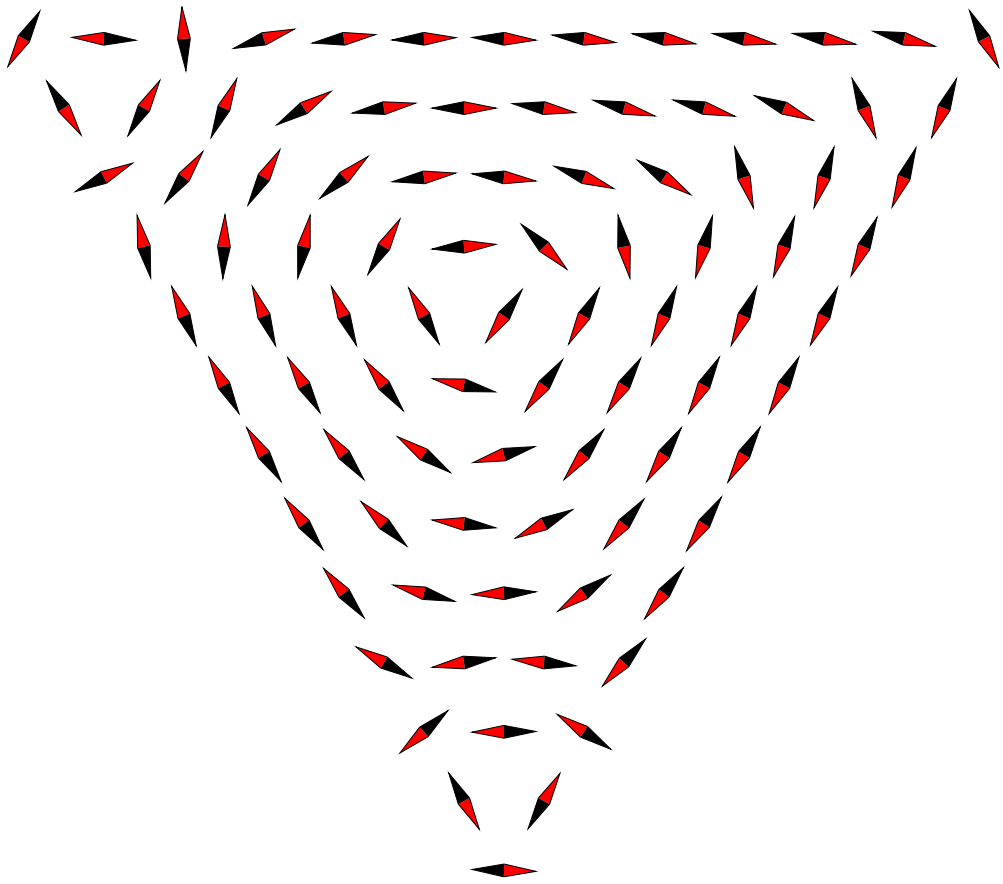


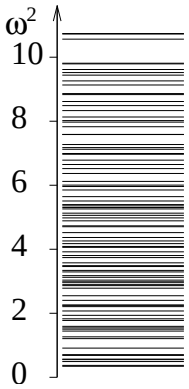
$E_6 = -223.87252$ (11 mal) $\omega_1^2 = 0.12523$



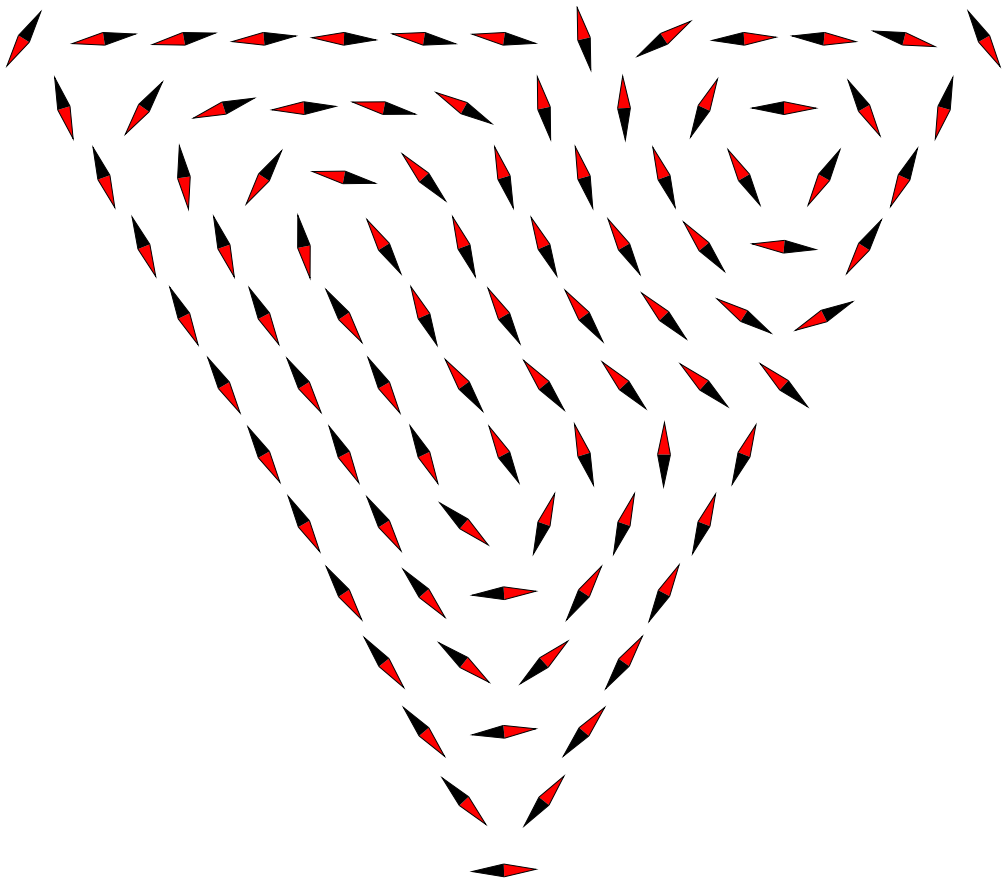


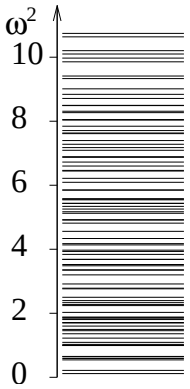
$E_8 = -223.67571$ (74 mal) $\omega_1^2 = 0.34878$



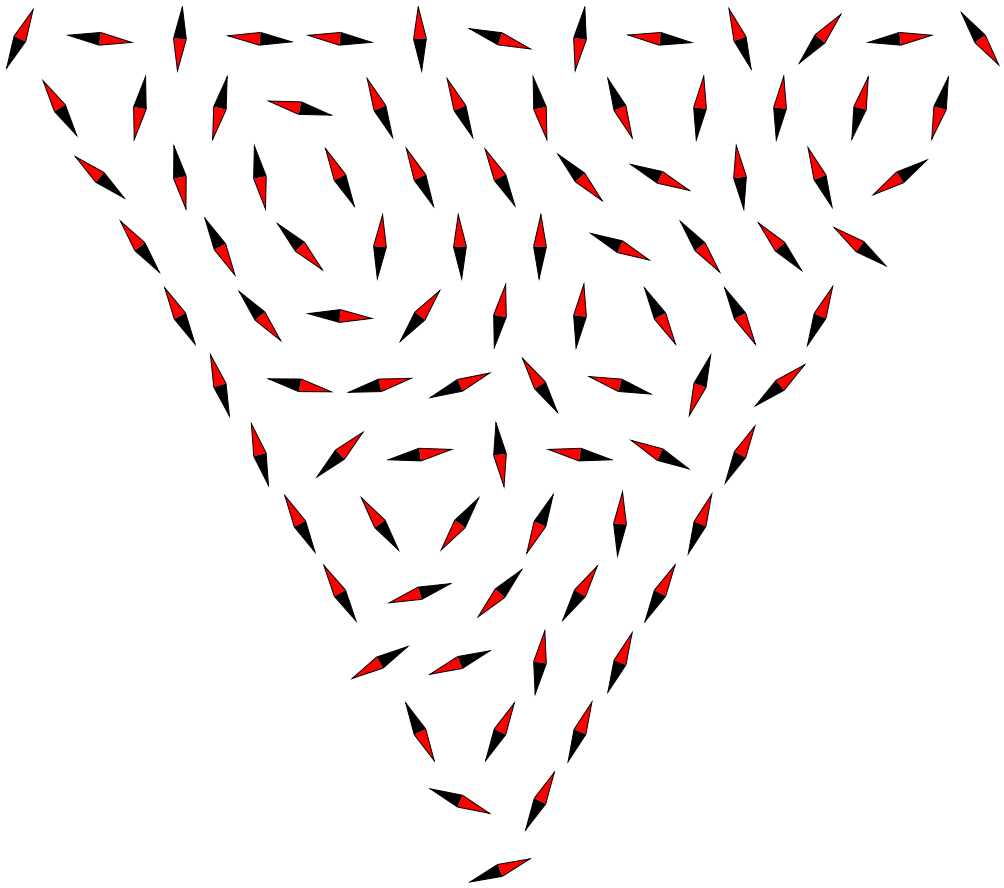


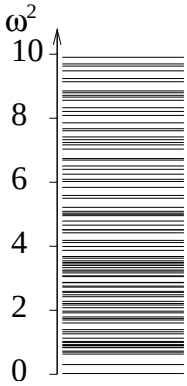
$E_{12} = -223.49932$ (69 mal) $\omega_1^2 = 0.34359$



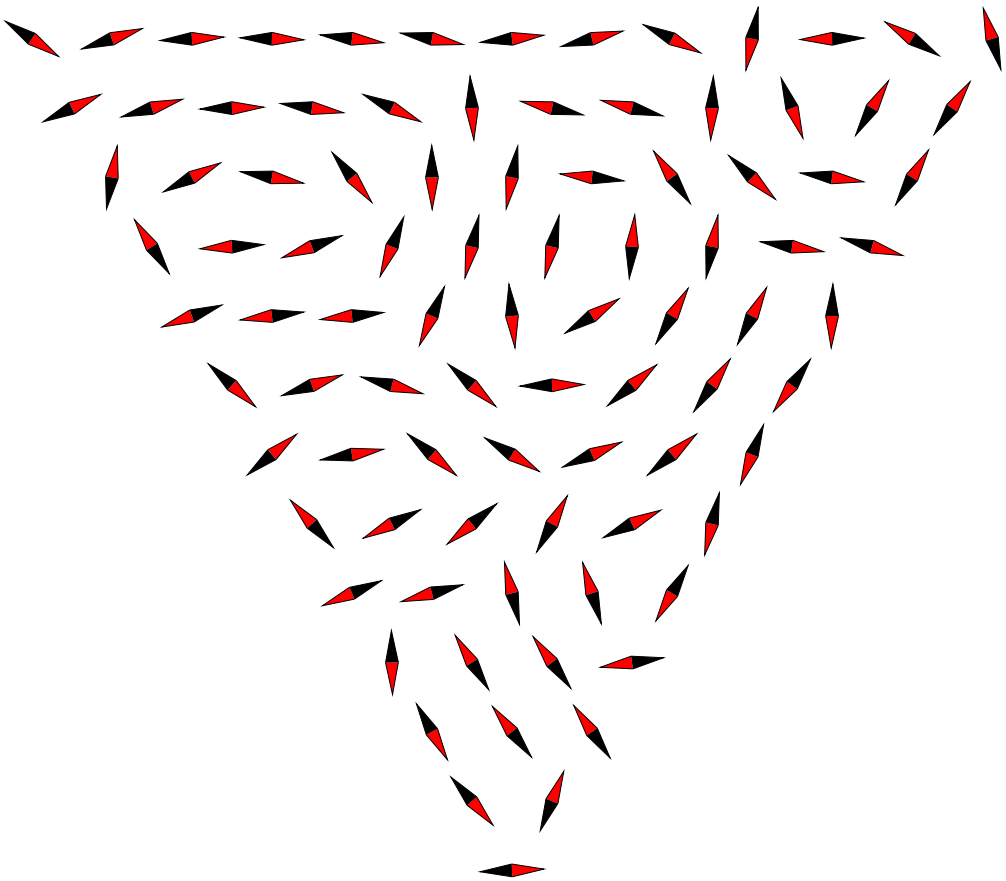


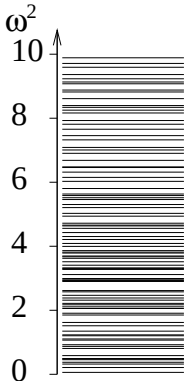
$E_{38} = -221.77922$ (62 mal) $\omega_1^2 = 0.11725$



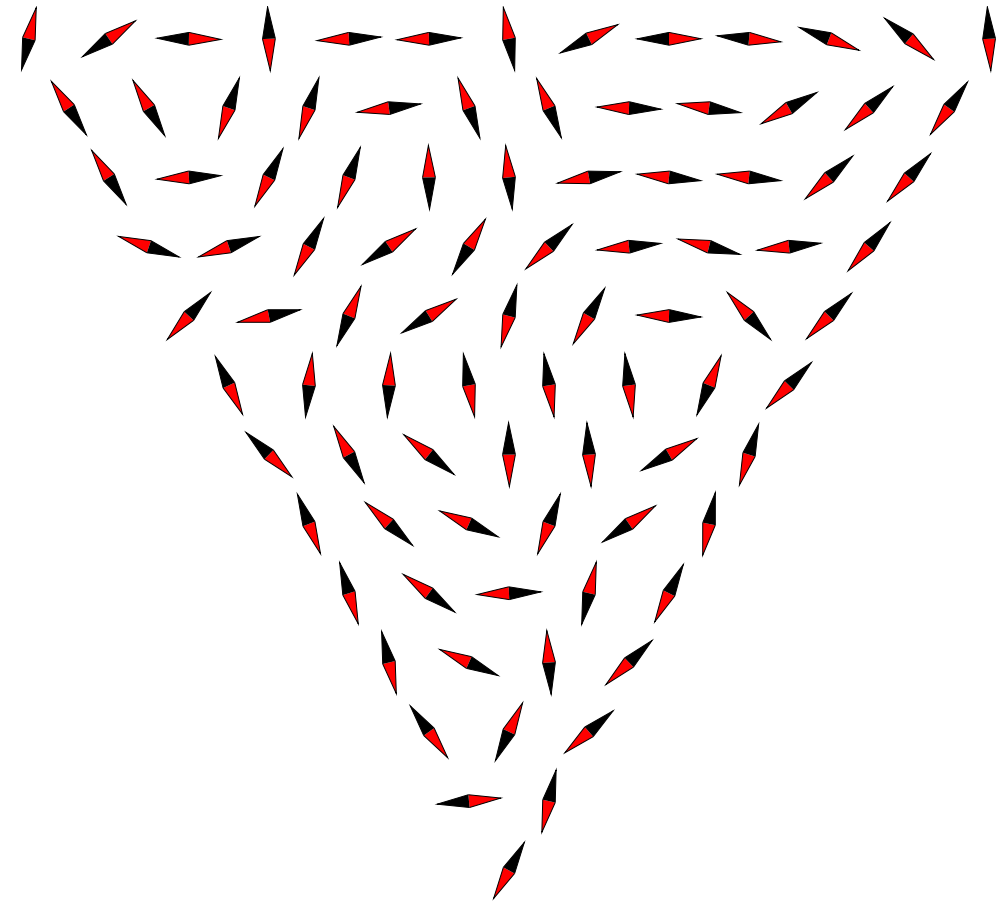


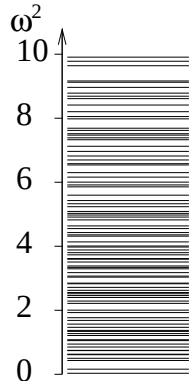
$E_{1536} = -202.33375$ (1 mal) $\omega_1^2 = 0.02336$





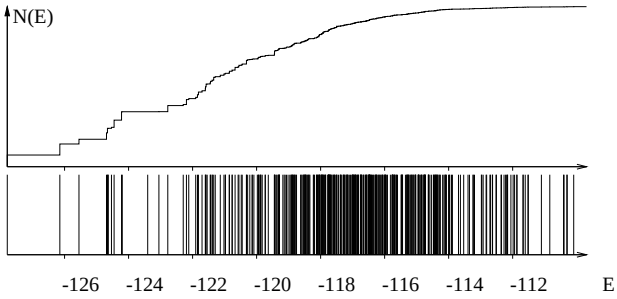
$E_{1537} = -202.19063$ (1 mal) $\omega_1^2 = 0.05805$



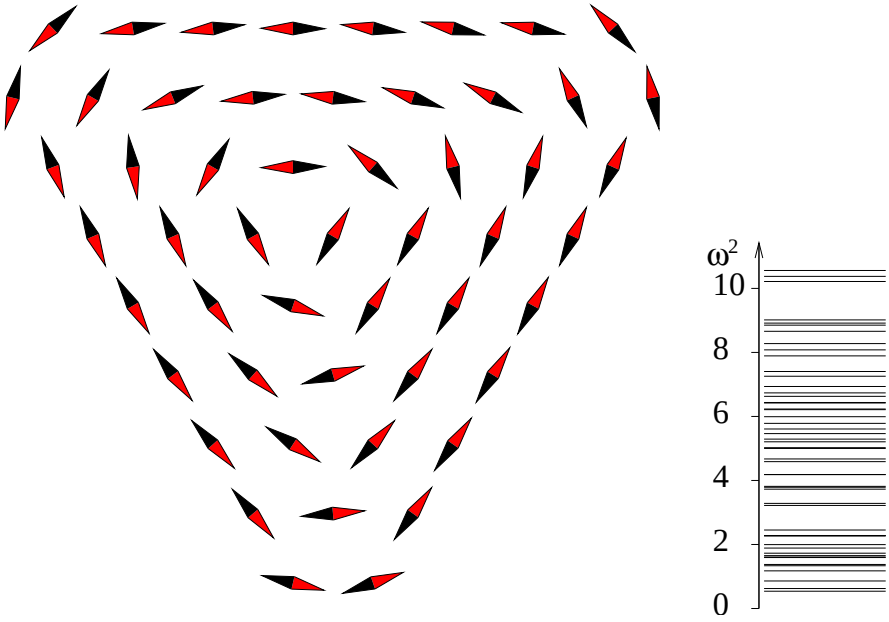


$E_{1538} = -201.19906$ (1 mal) $\omega_1^2 = 0.03040$

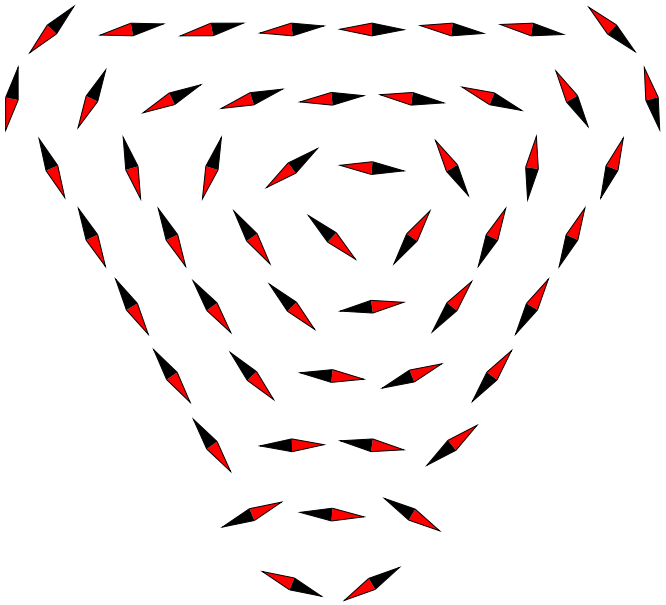
Dreiecks-Gitter (7,1)



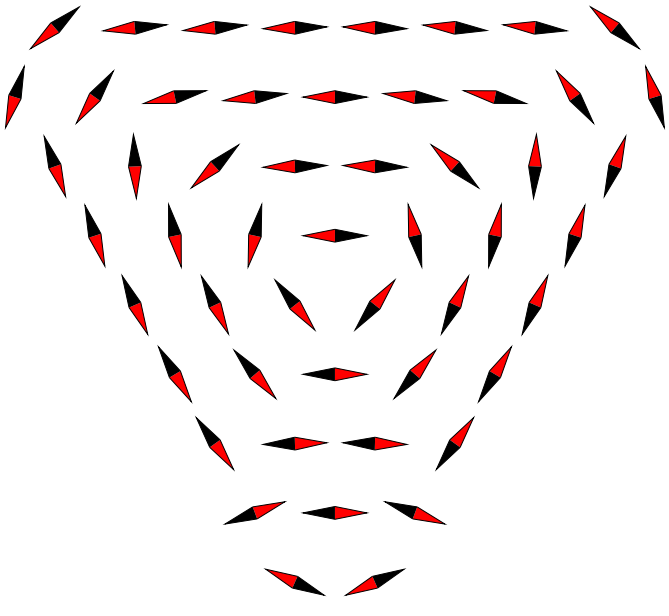
Anzahl Gitterpunkte: 52, Gefundene Energie-Niveaus: 376, Läufe: 3000



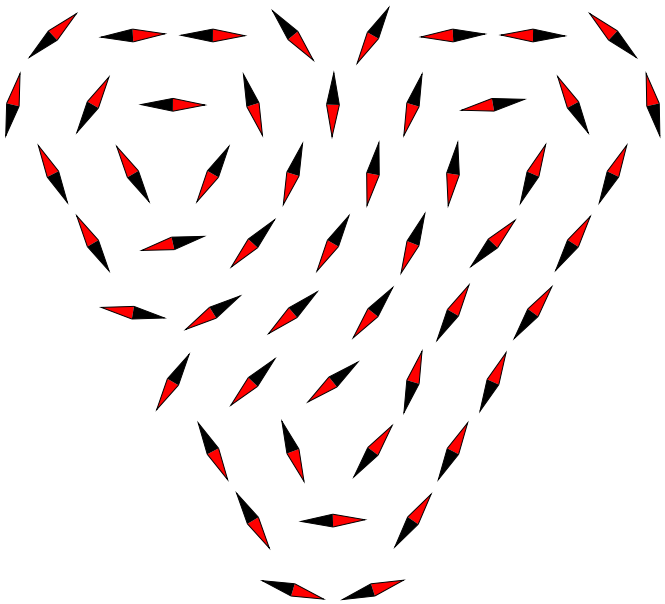
$E_1 = -127.79089$ (219 mal) $\omega_1^2 = 0.53897$



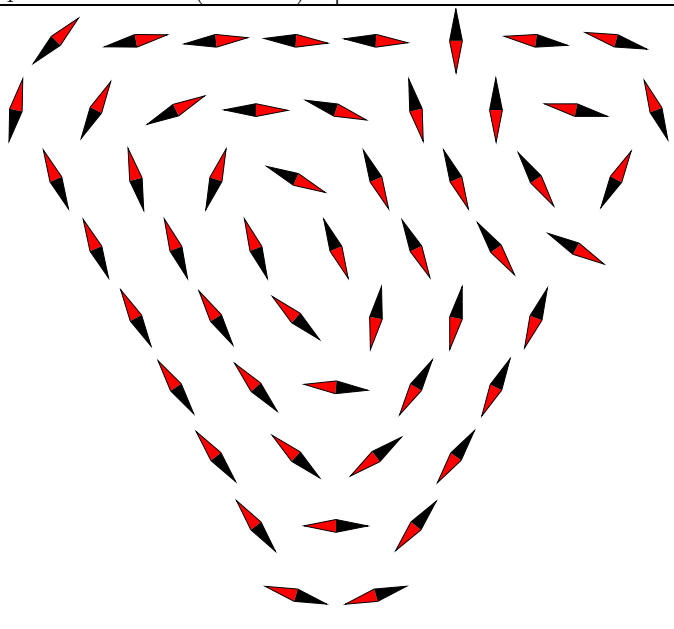
$E_2 = -126.14737$ (207 mal) $\omega_1^2 = 0.36722$



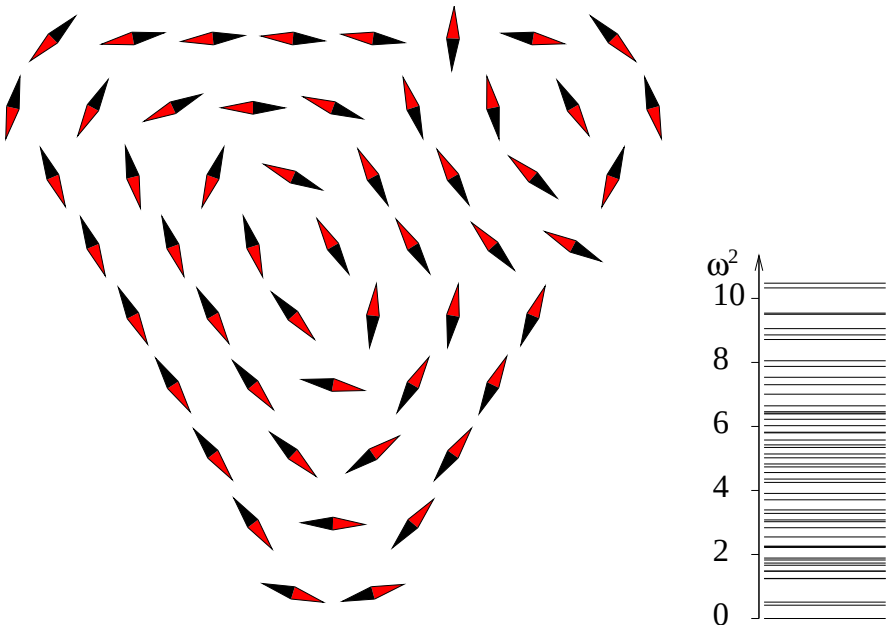
$E_3 = -125.55192$ (88 mal) $\omega_1^2 = 0.41924$



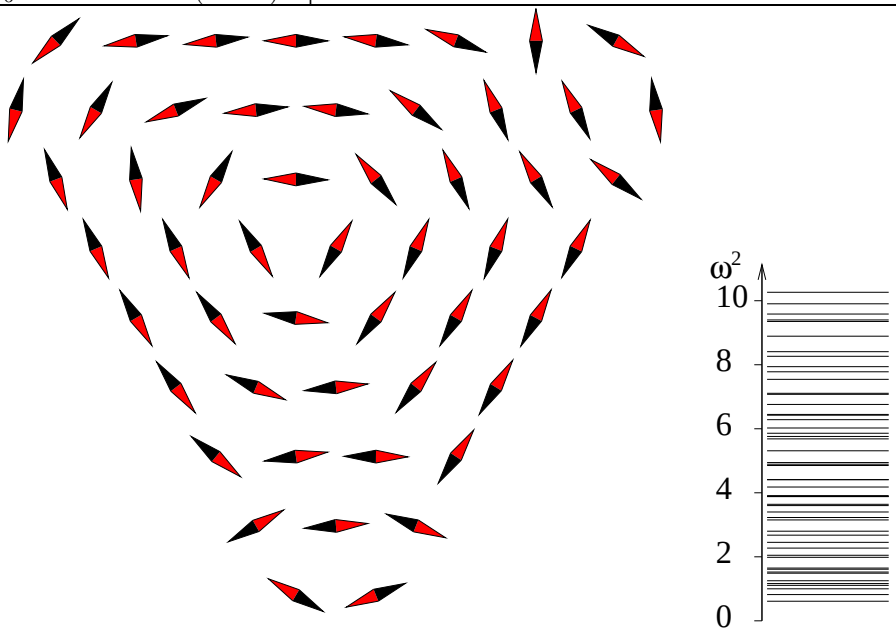
$E_4 = -124.68965$ (120 mal) $\omega_1^2 = 0.31968$



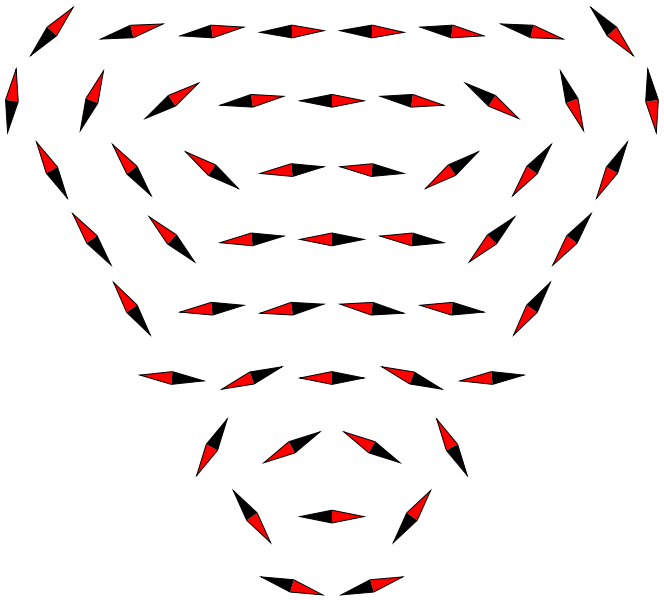
$E_5 = -124.66033$ (84 mal) $\omega_1^2 = 0.21721$

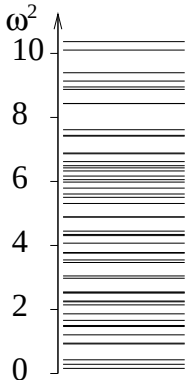


$E_6 = -124.64194$ (1 mal) $\omega_1^2 = 0.00004$

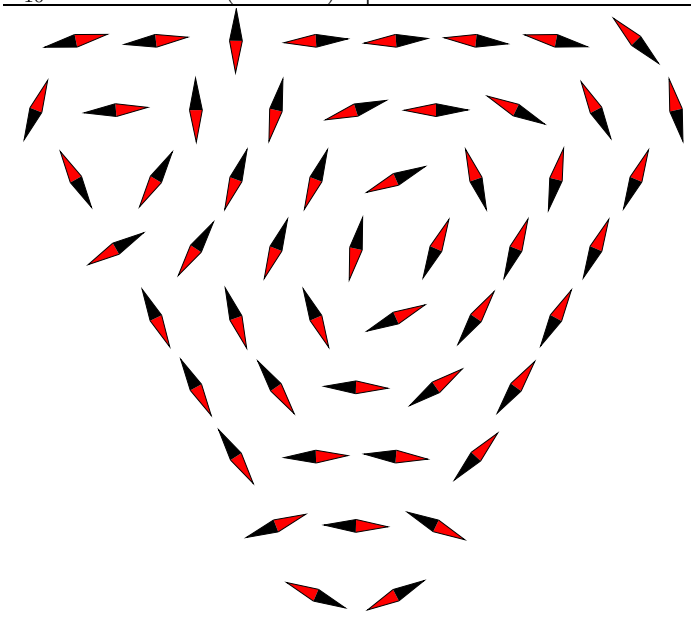


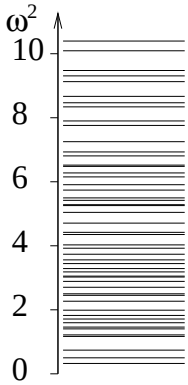
$E_9 = -124.45287$ (135 mal) $\omega_1^2 = 0.61132$



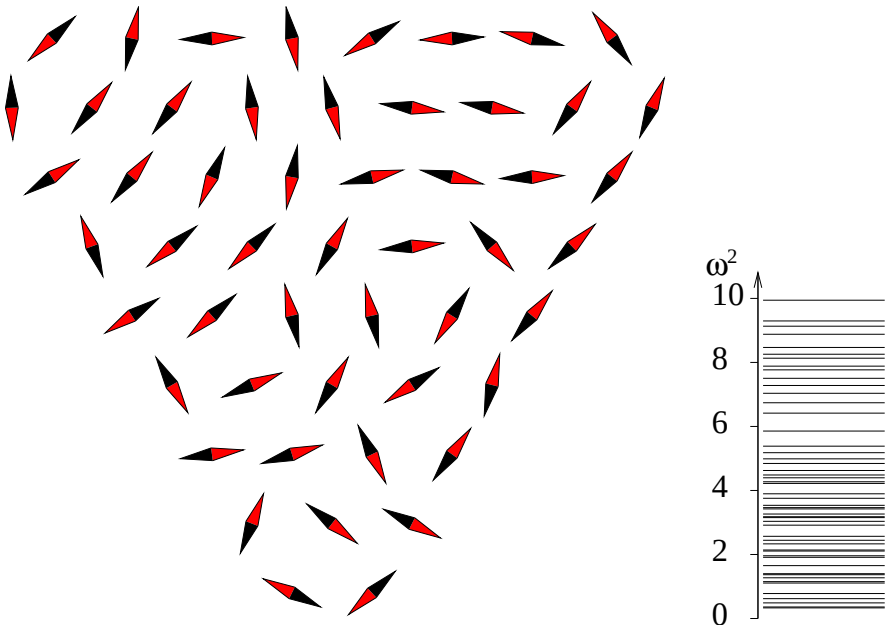


$E_{10} = -124.22086$ (156 mal) $\omega_1^2 = 0.15831$

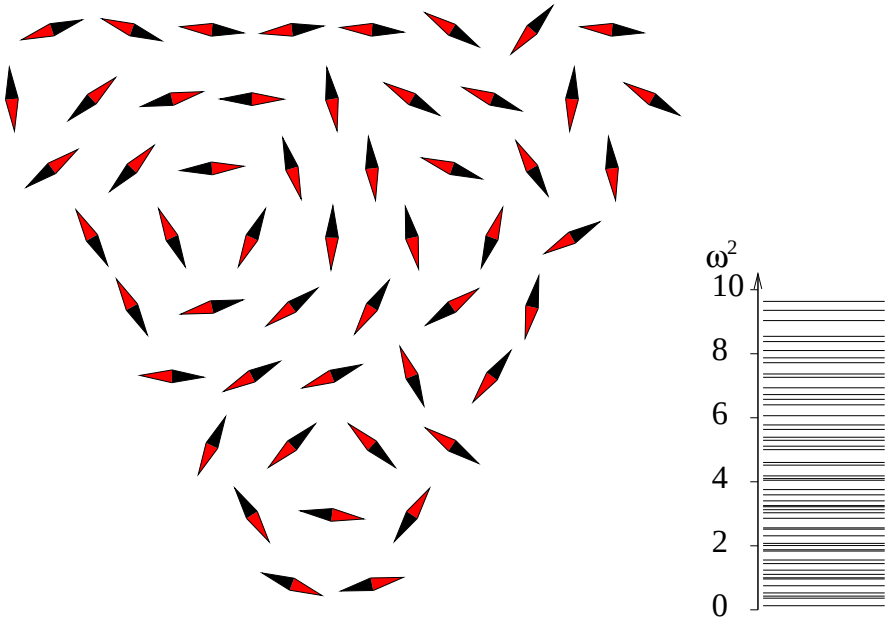




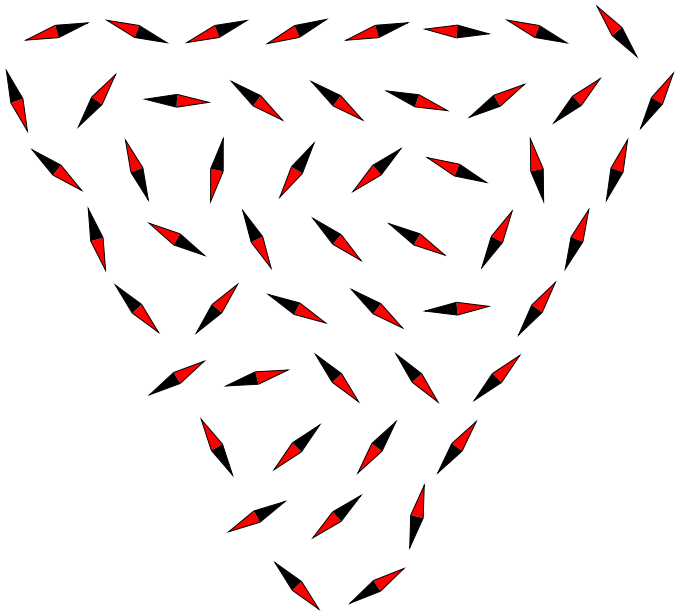
$E_{14} = -122.77492$ (114 mal) $\omega_1^2 = 0.32428$



$E_{374} = -110.30542$ (1 mal) $\omega_1^2 = 0.33204$

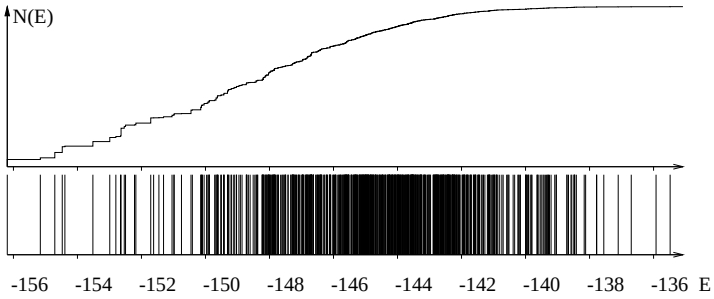


$E_{375} = -110.29940$ (1 mal) $\omega_1^2 = 0.12625$

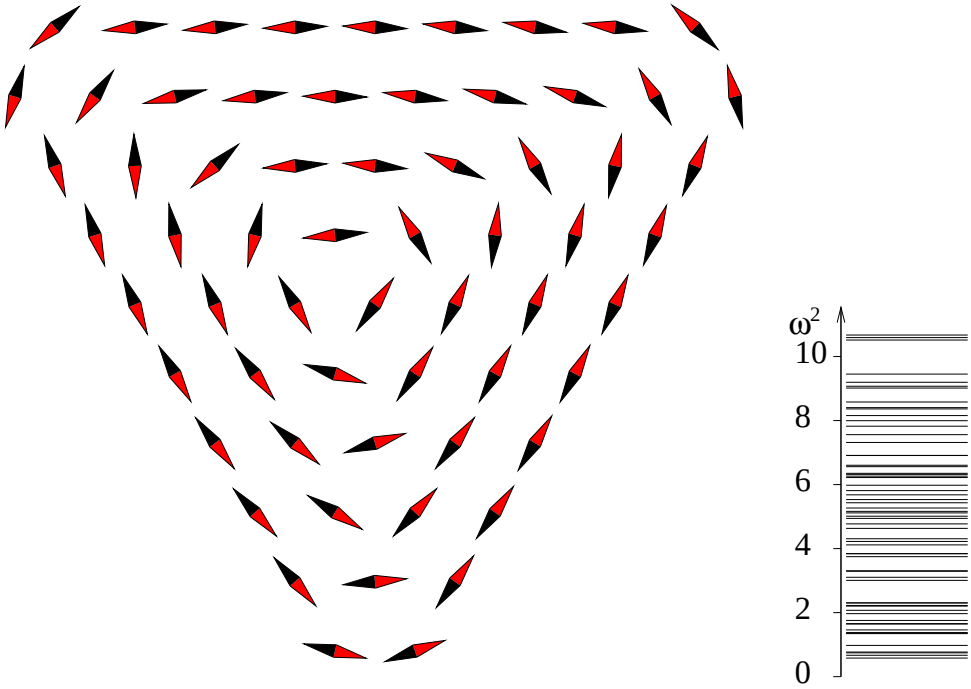


$E_{376} = -110.09418$ (1 mal) $\omega_1^2 = 0.22398$

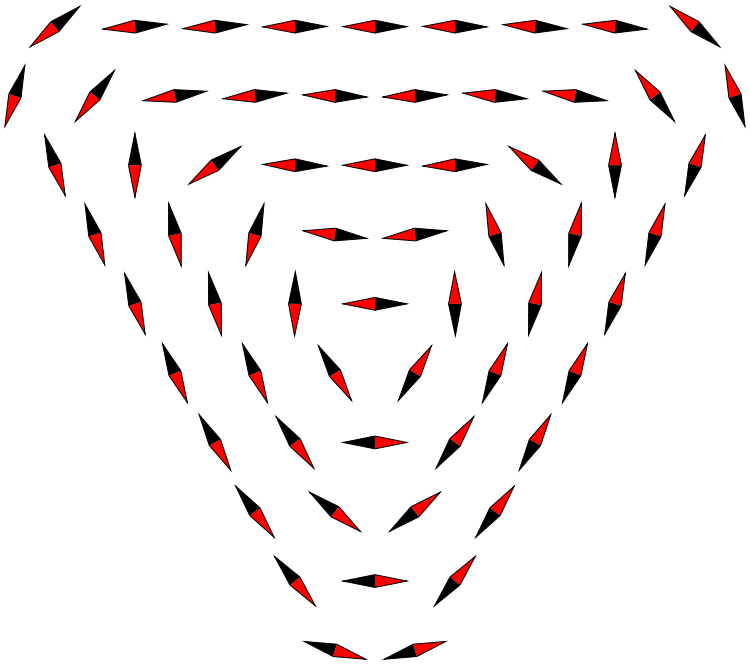
Dreiecks-Gitter (8,1)



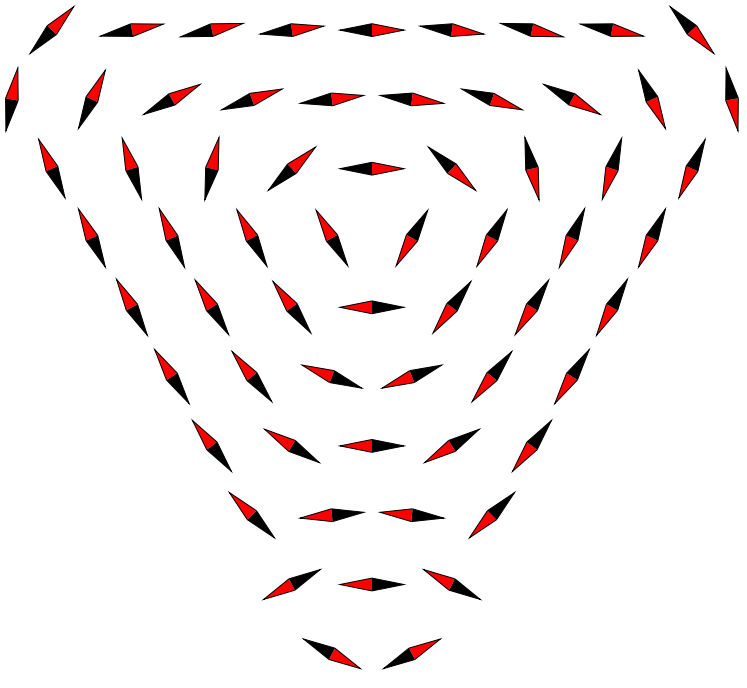
Anzahl Gitterpunkte: 63, Gefundene Energie-Niveaus: 707, Läufe: 3000



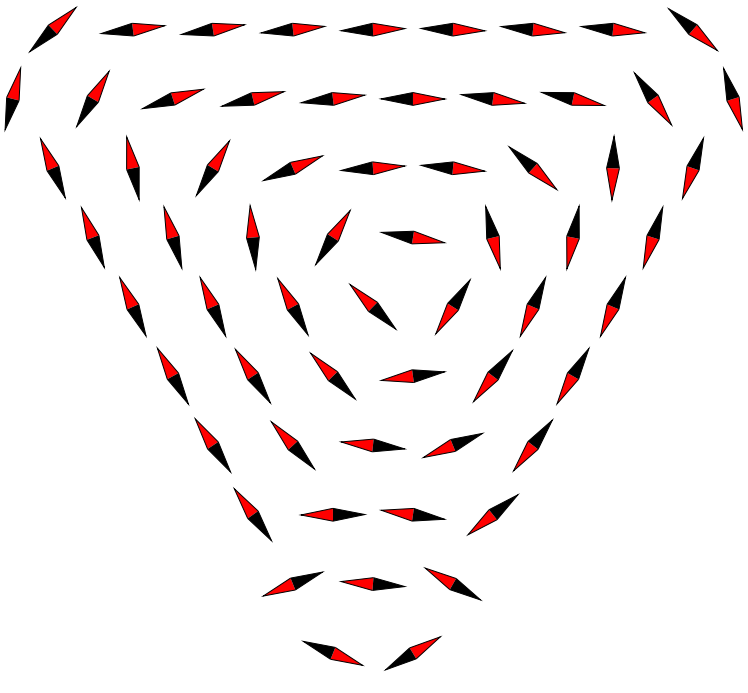
$E_1 = -156.19313$ (135 mal) $\omega_1^2 = 0.57825$



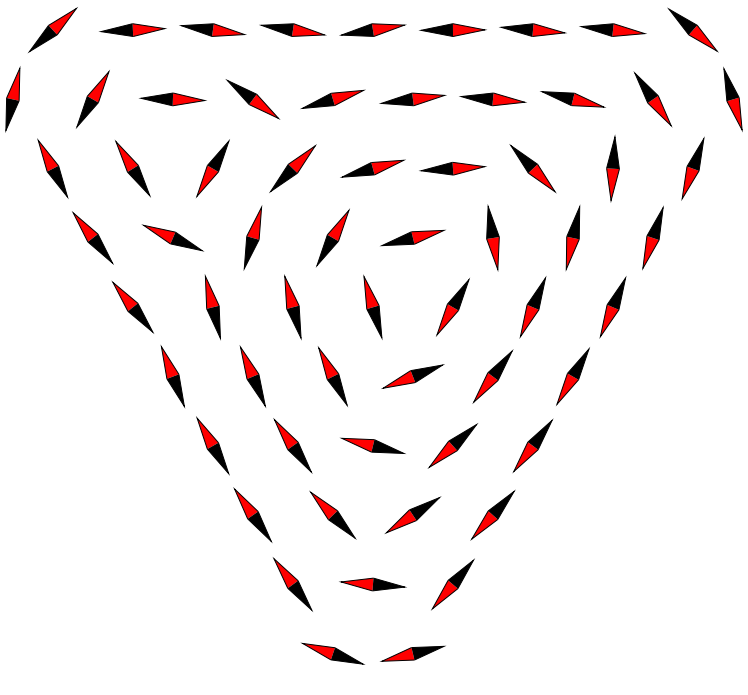
$E_2 = -155.16176$ (32 mal) $\omega_1^2 = 0.06451$



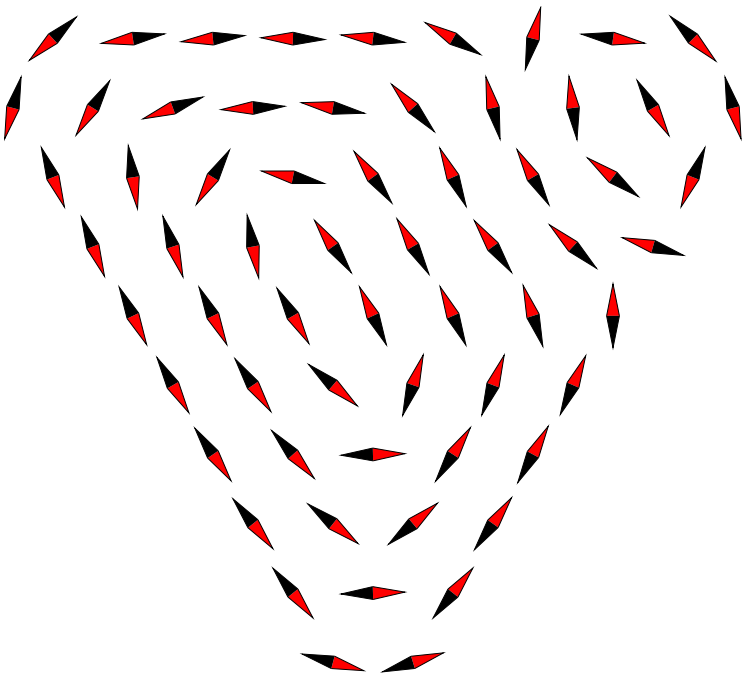
$E_3 = -154.70914$ (100 mal) $\omega_1^2 = 0.63189$



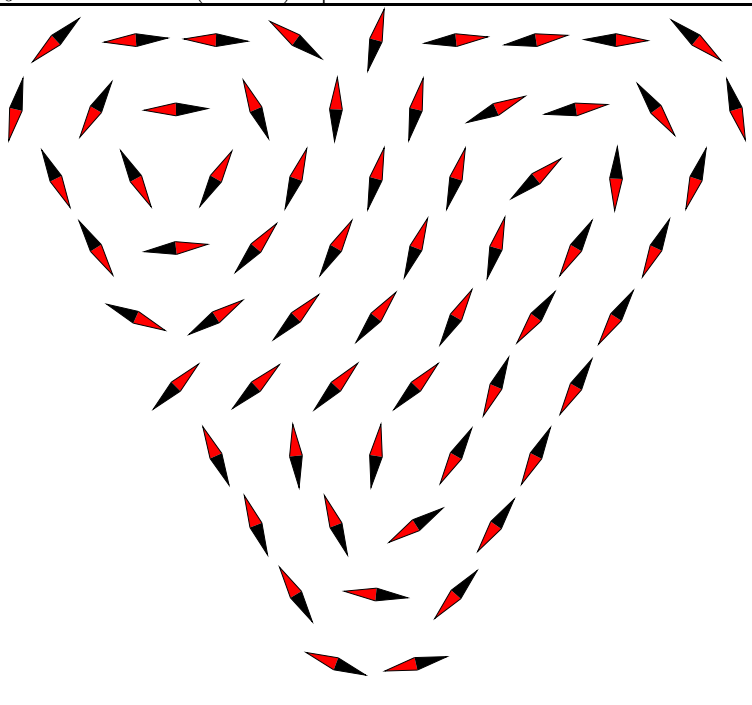
$E_4 = -154.47466$ (108 mal) $\omega_1^2 = 0.45941$



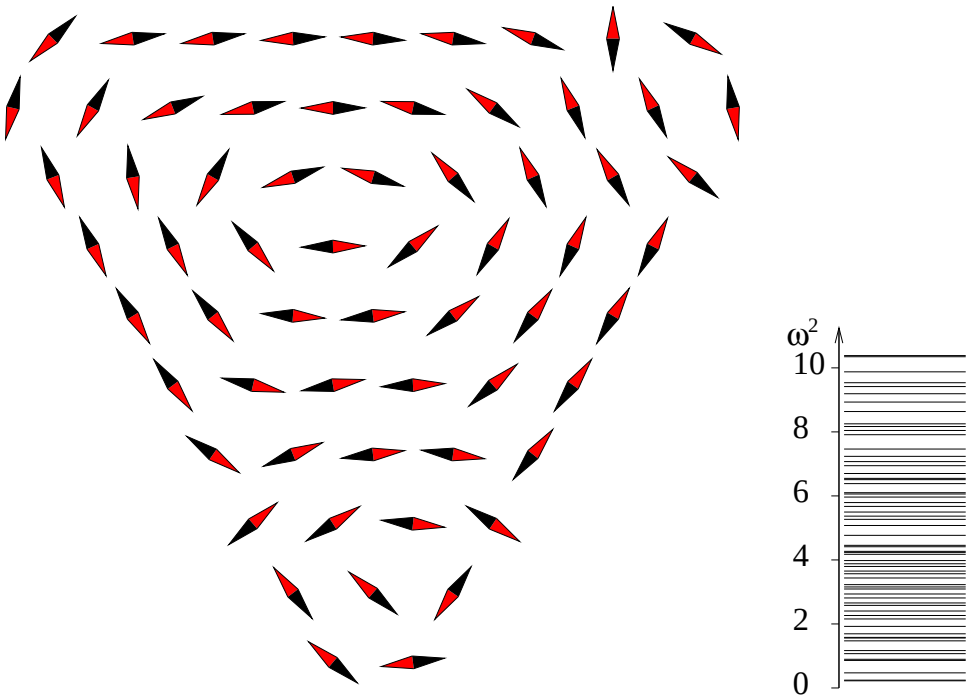
$E_5 = -154.39331$ (10 mal) $\omega_1^2 = 0.04957$



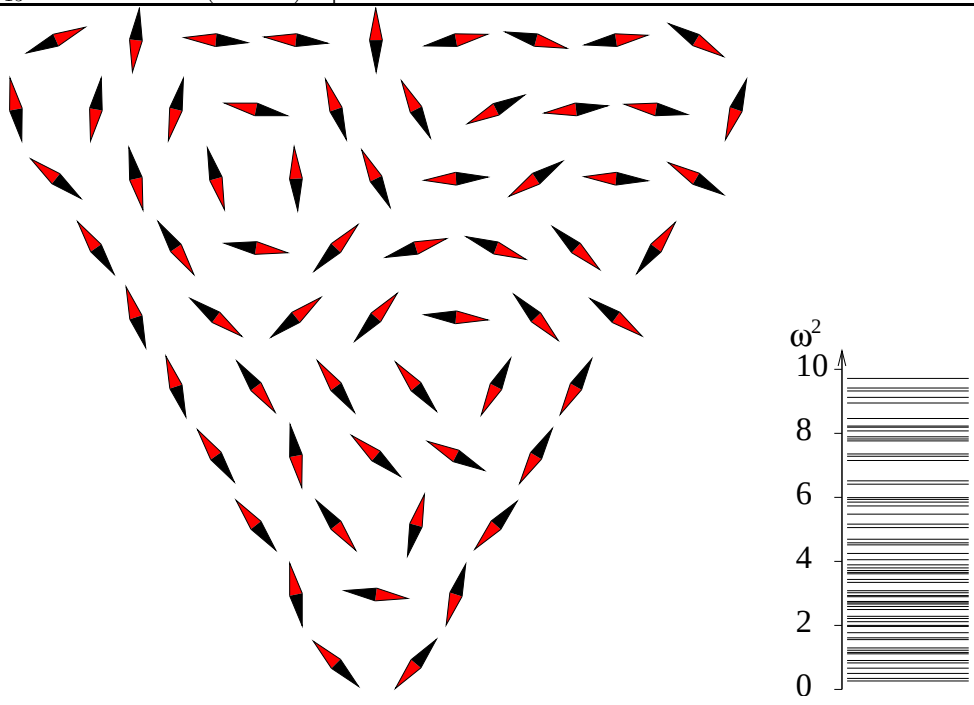
$E_6 = -153.51721$ (86 mal) $\omega_1^2 = 0.06538$



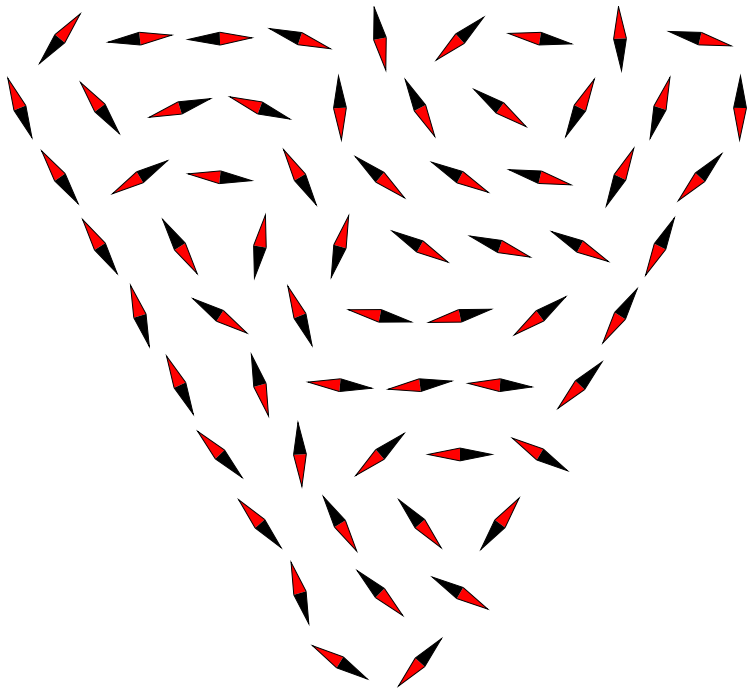
$E_{10} = -152.63765$ (144 mal) $\omega_1^2 = 0.12840$



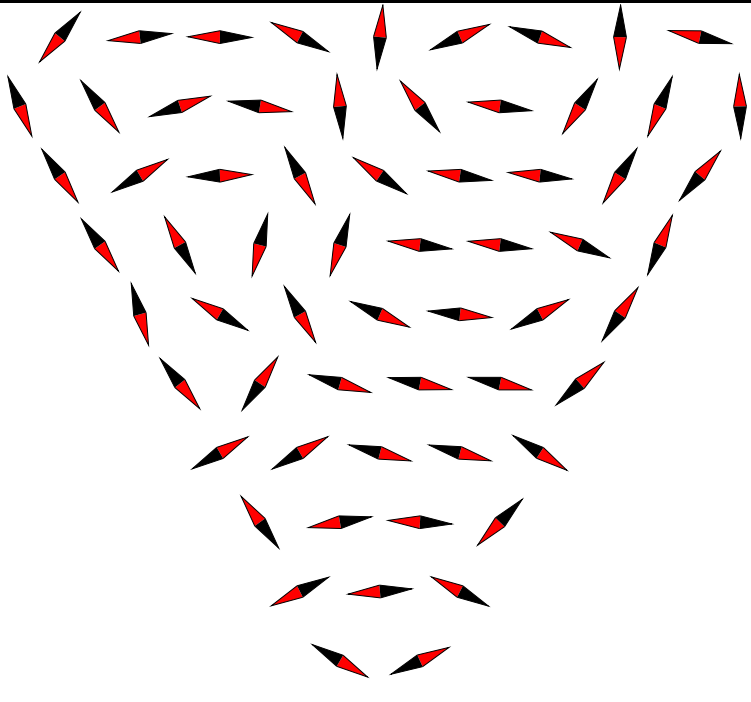
$E_{15} = -151.71139$ (98 mal) $\omega_1^2 = 0.22463$



$E_{705} = -136.69742$ (1 mal) $\omega_1^2 = 0.26239$

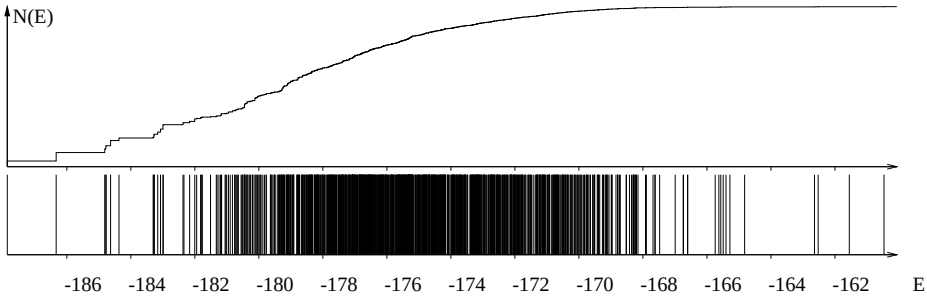


$E_{706} = -135.92341$ (1 mal) $\omega_1^2 = 0.11257$

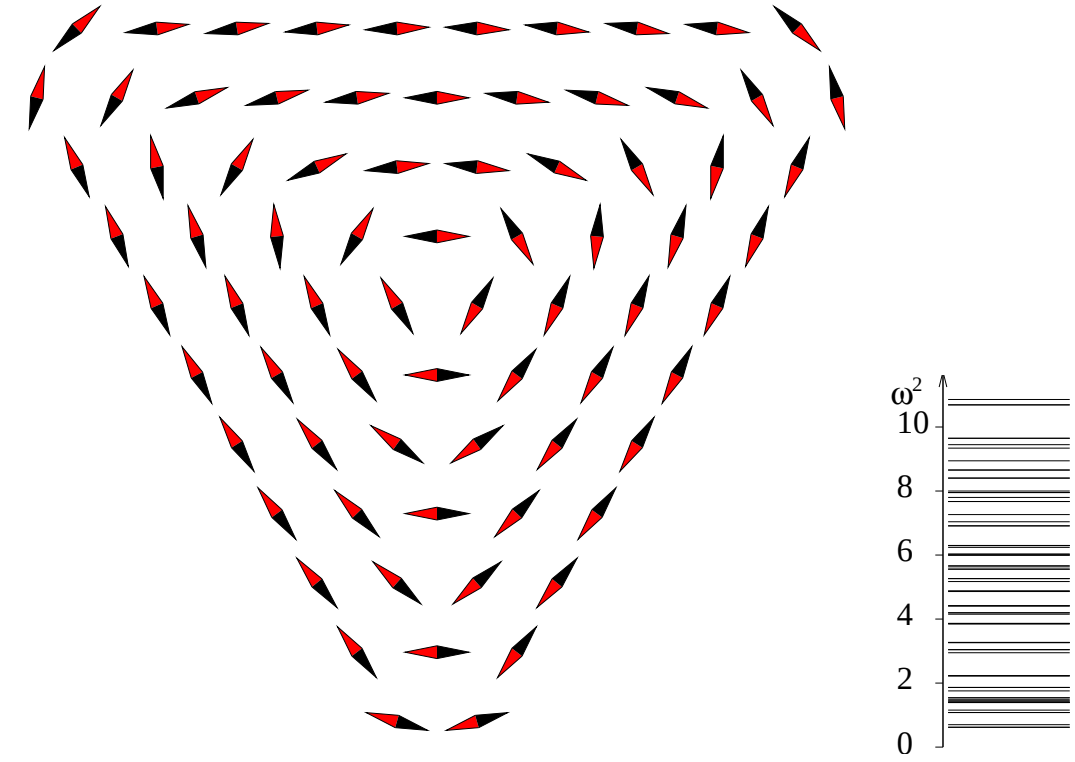


$E_{707} = -135.48392$ (1 mal) $\omega_1^2 = 0.13917$

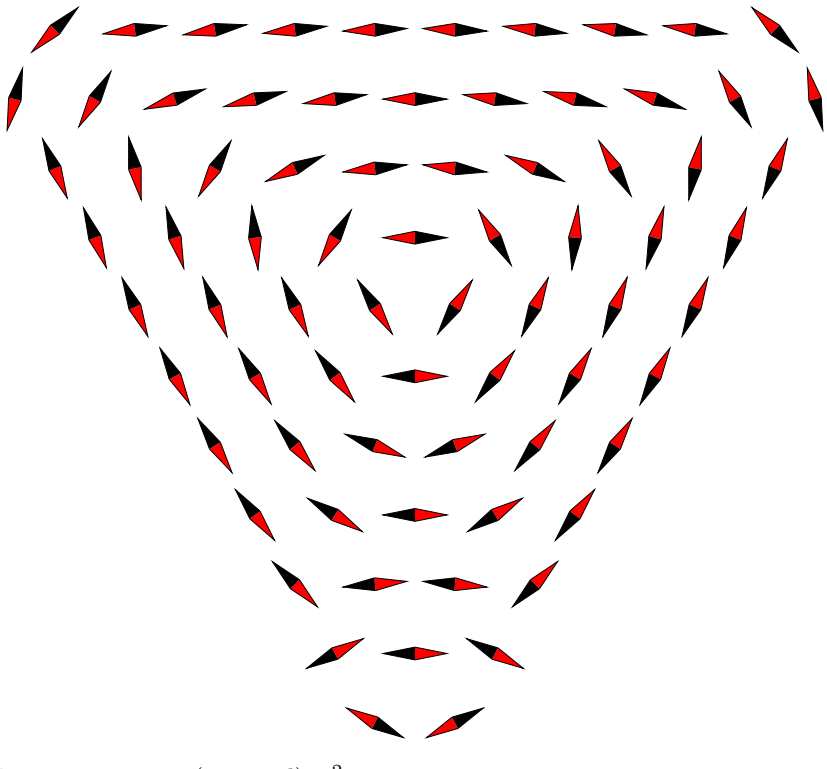
Dreiecks-Gitter (9,1)



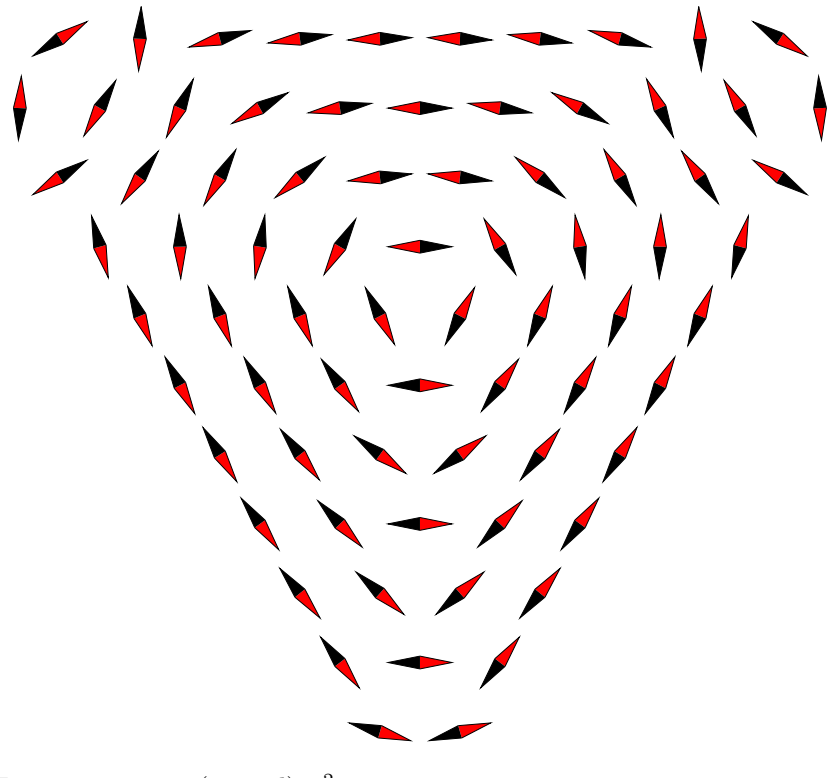
Anzahl Gitterpunkte: 75, Gefundene Energie-Niveaus: 1033, Läufe: 3000



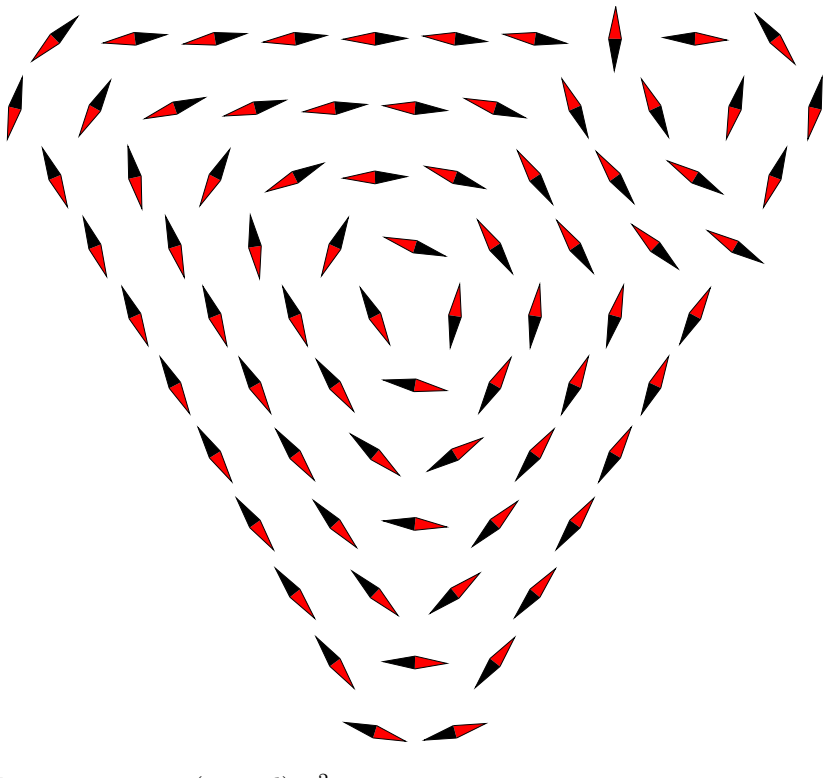
$E_1 = -187.85907$ (106 mal) $\omega_1^2 = 0.62138$



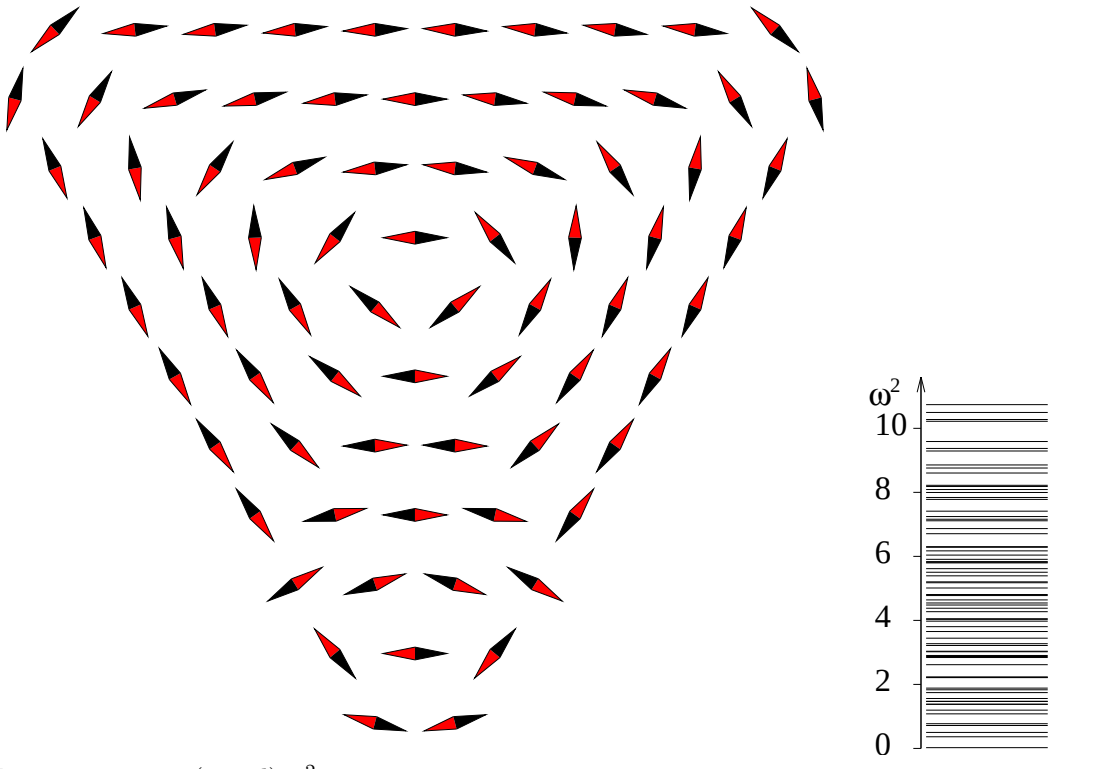
$E_2 = -186.33263$ (159 mal) $\omega_1^2 = 0.61017$



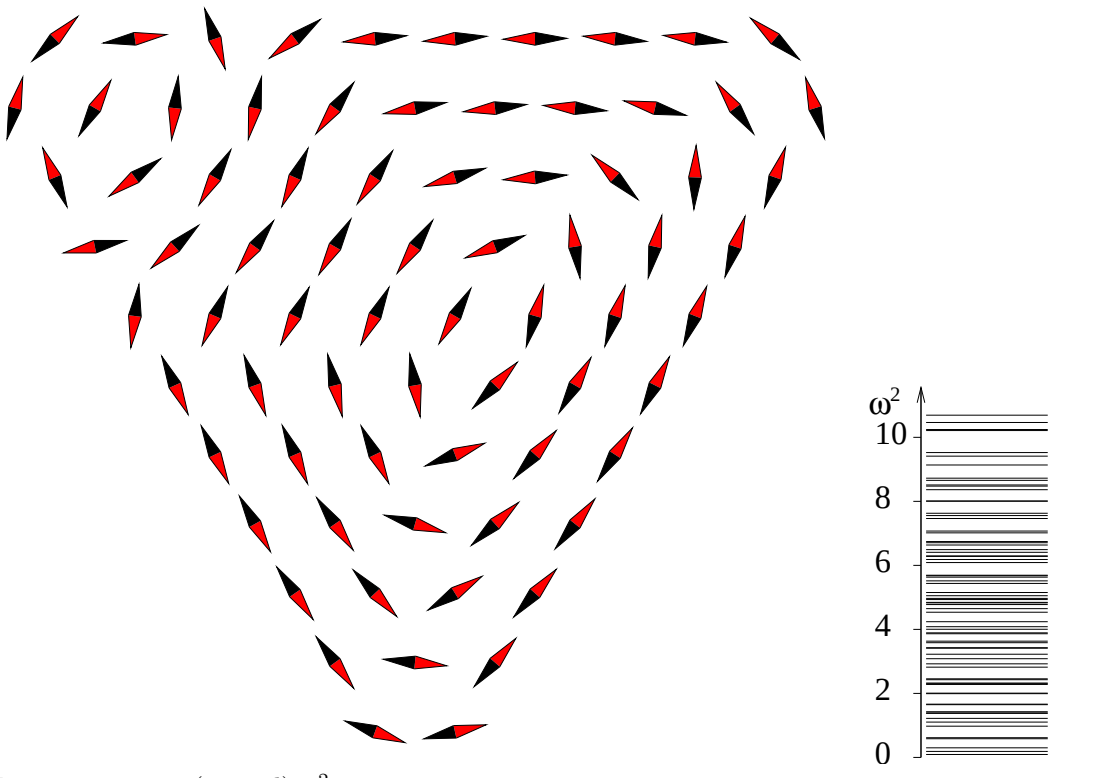
$E_3 = -184.81319$ (68 mal) $\omega_1^2 = 0.61721$



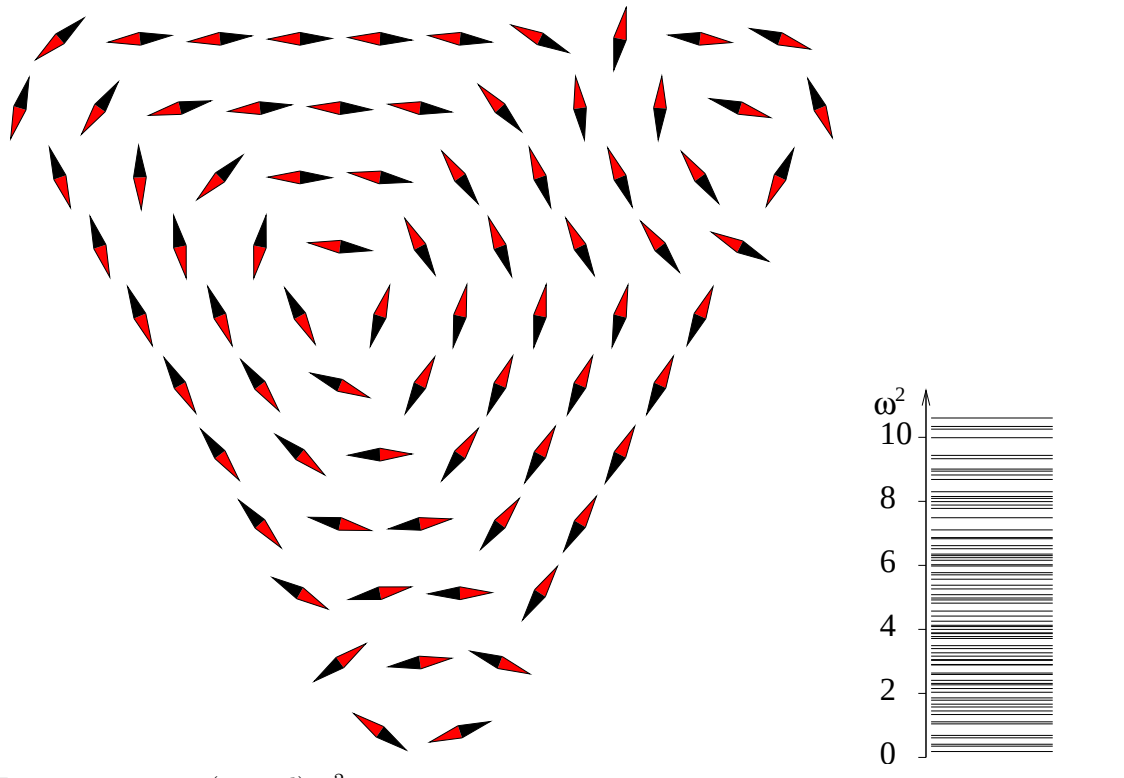
$E_4 = -184.77832$ (57 mal) $\omega_1^2 = 0.16982$



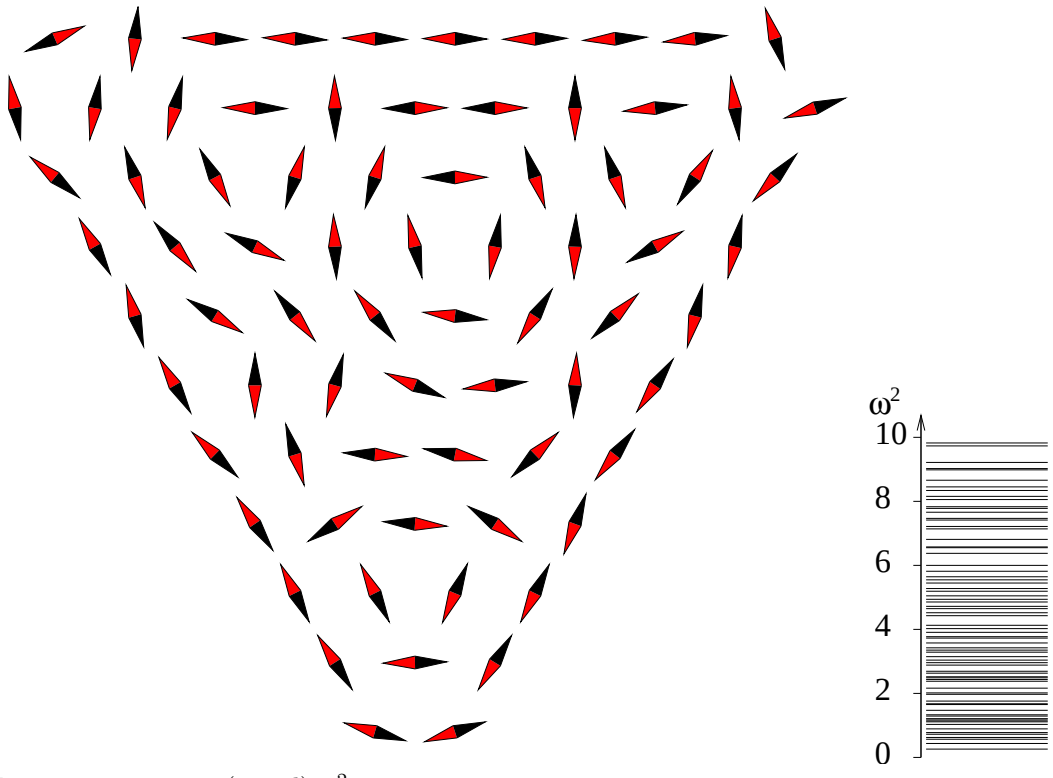
$E_5 = -184.77068$ (3 mal) $\omega_1^2 = 0.02537$



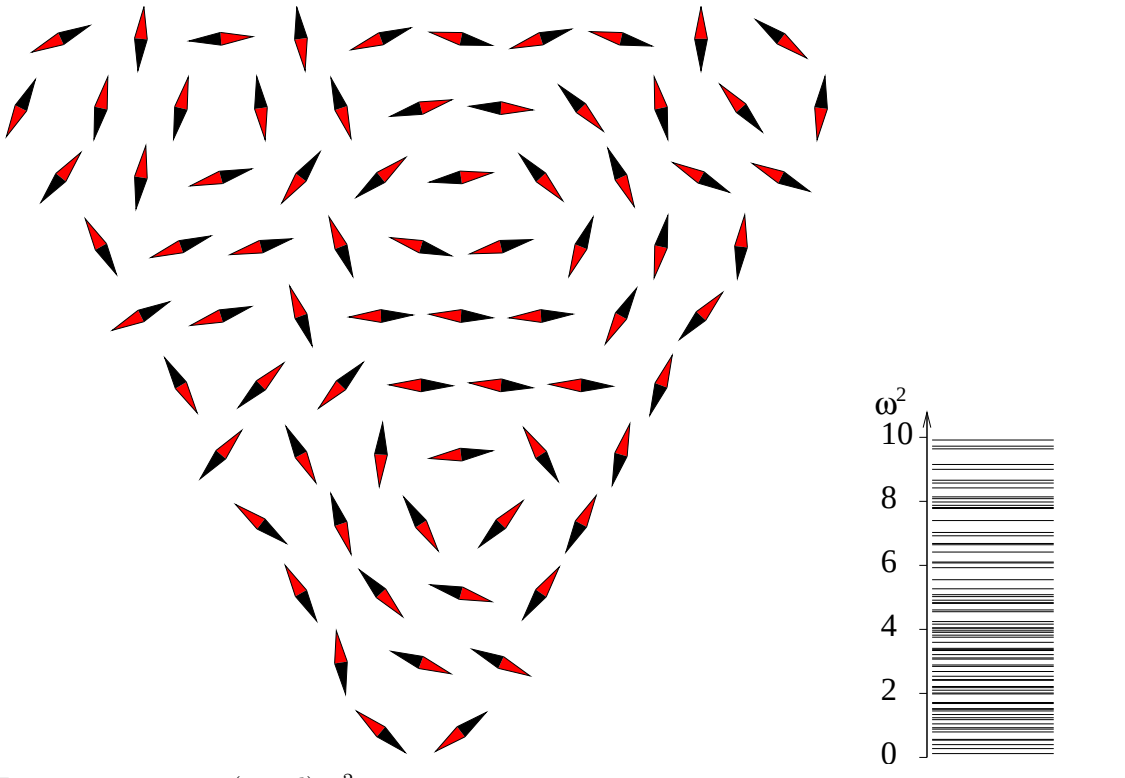
$E_6 = -184.63103$ (98 mal) $\omega_1^2 = 0.09394$



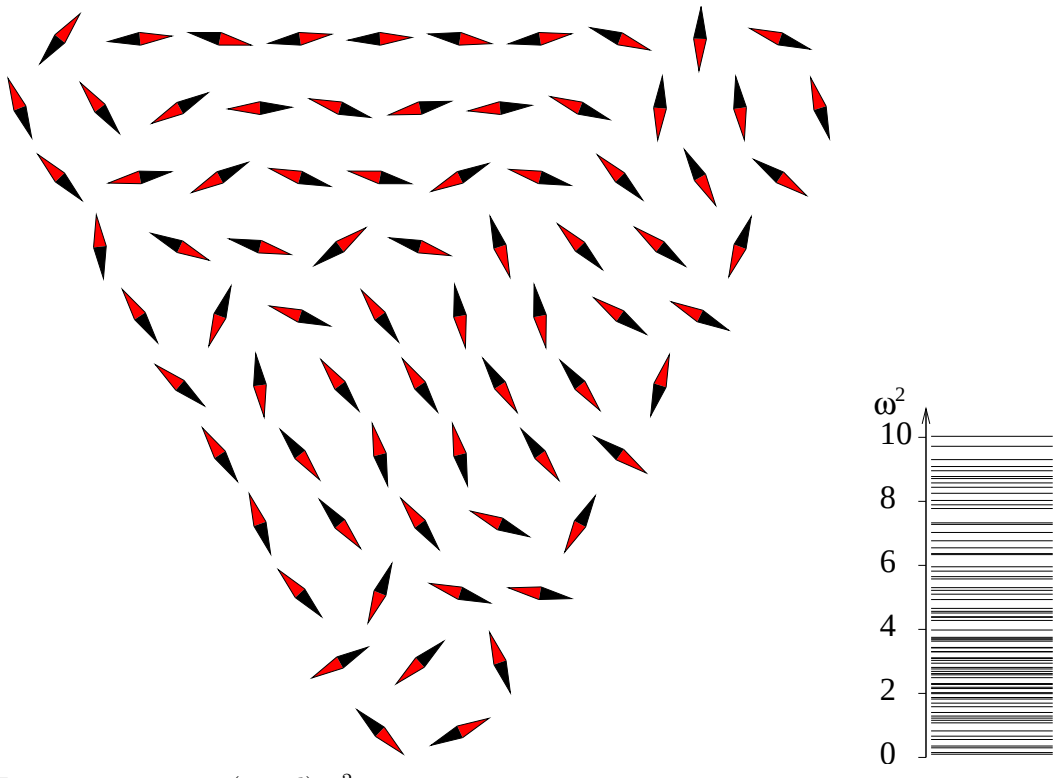
$E_{14} = -182.99345$ (73 mal) $\omega_1^2 = 0.18396$



$E_{1031} = -162.52372$ (1 mal) $\omega_1^2 = 0.26196$

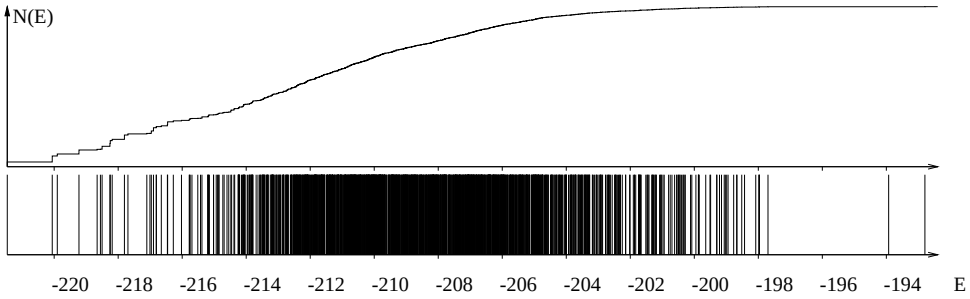


$E_{1032} = -161.55139$ (1 mal) $\omega_1^2 = 0.12147$

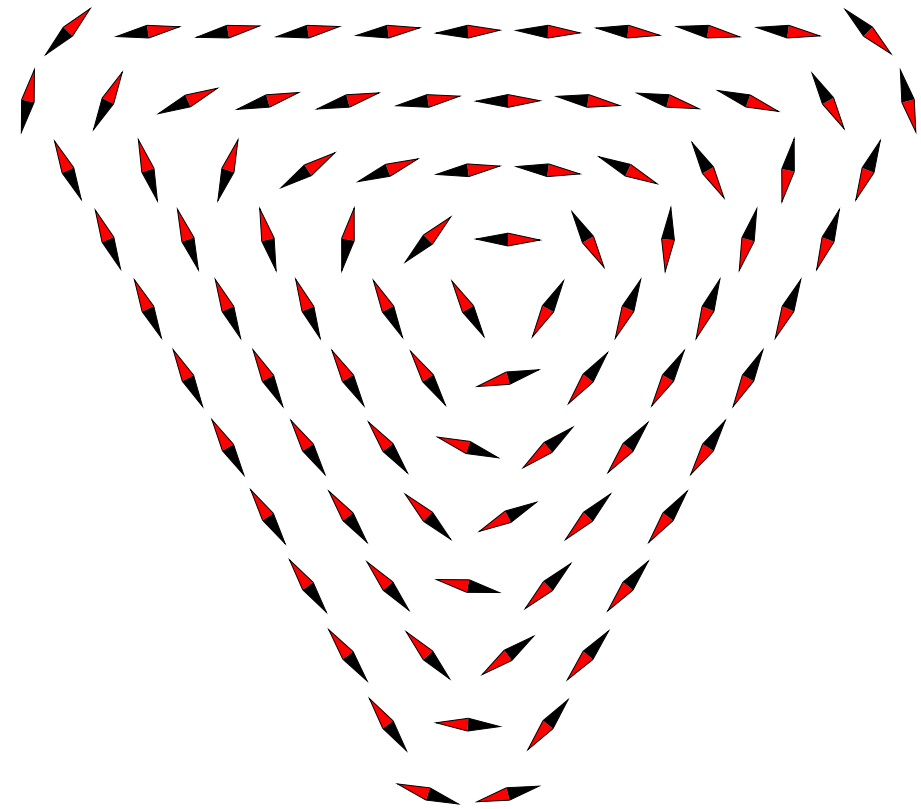


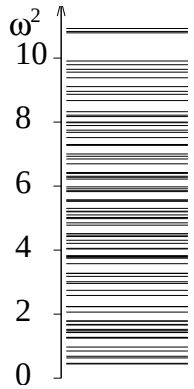
$E_{1033} = -160.46765$ (1 mal) $\omega_1^2 = 0.09960$

Dreiecks-Gitter (10,1)

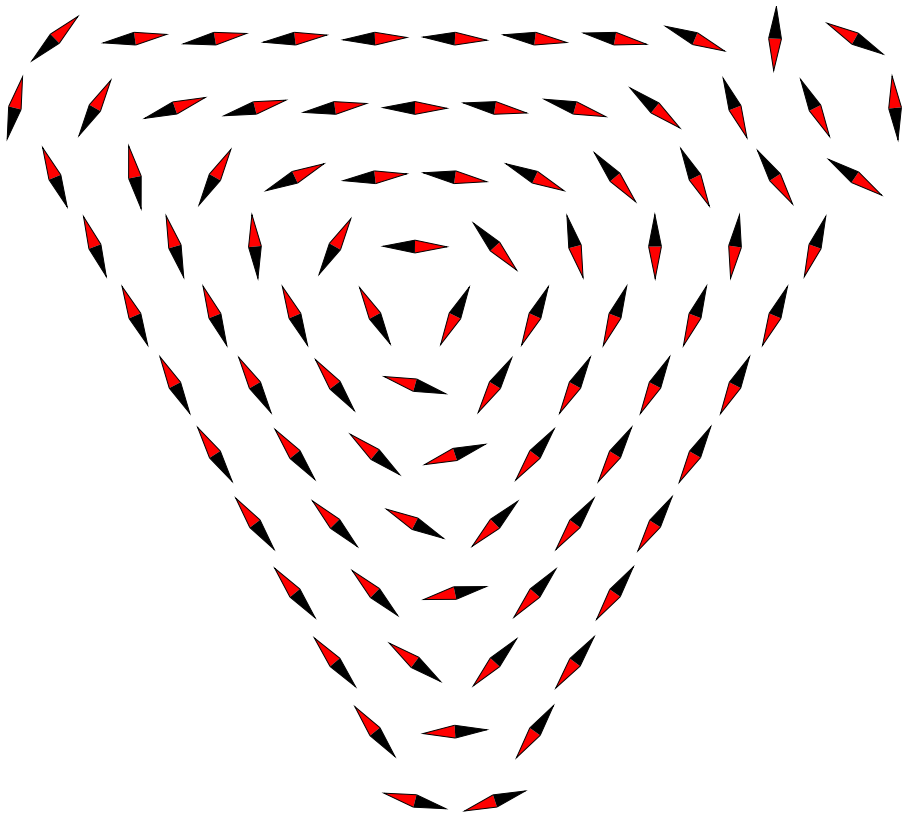


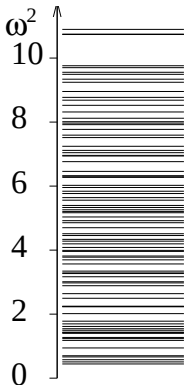
Anzahl Gitterpunkte: 88, Gefundene Energie-Niveaus: 1340, Läufe: 3000



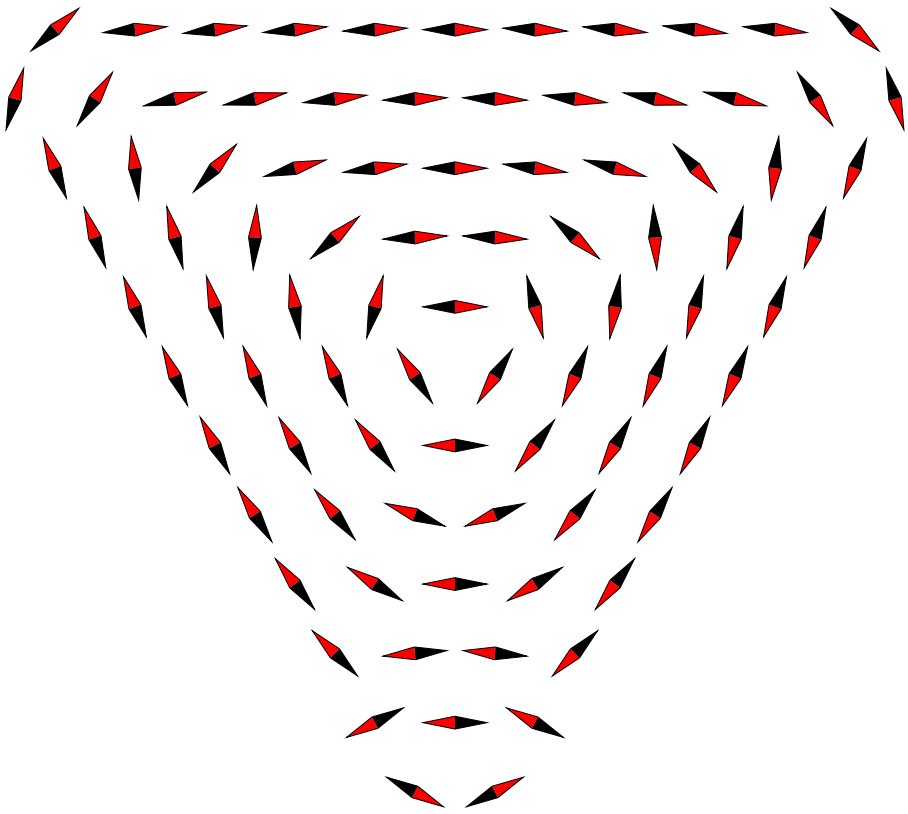


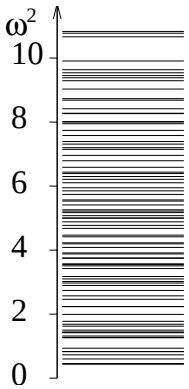
$E_1 = -221.46432$ (88 mal) $\omega_1^2 = 0.44427$



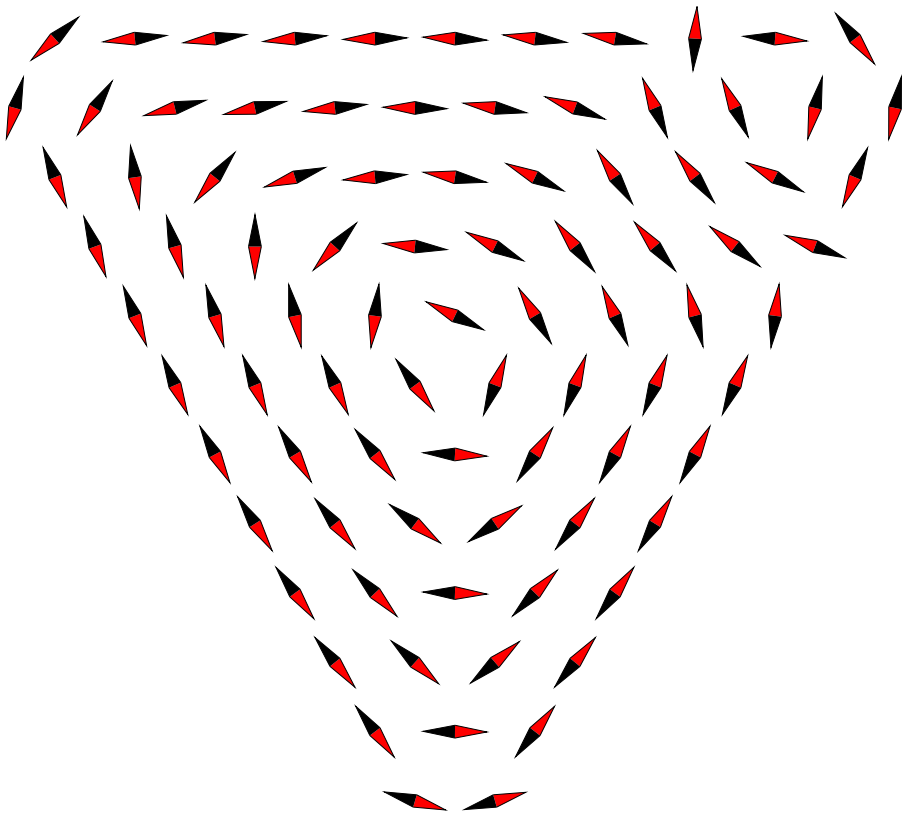


$E_2 = -220.06027$ (113 mal) $\omega_1^2 = 0.44201$

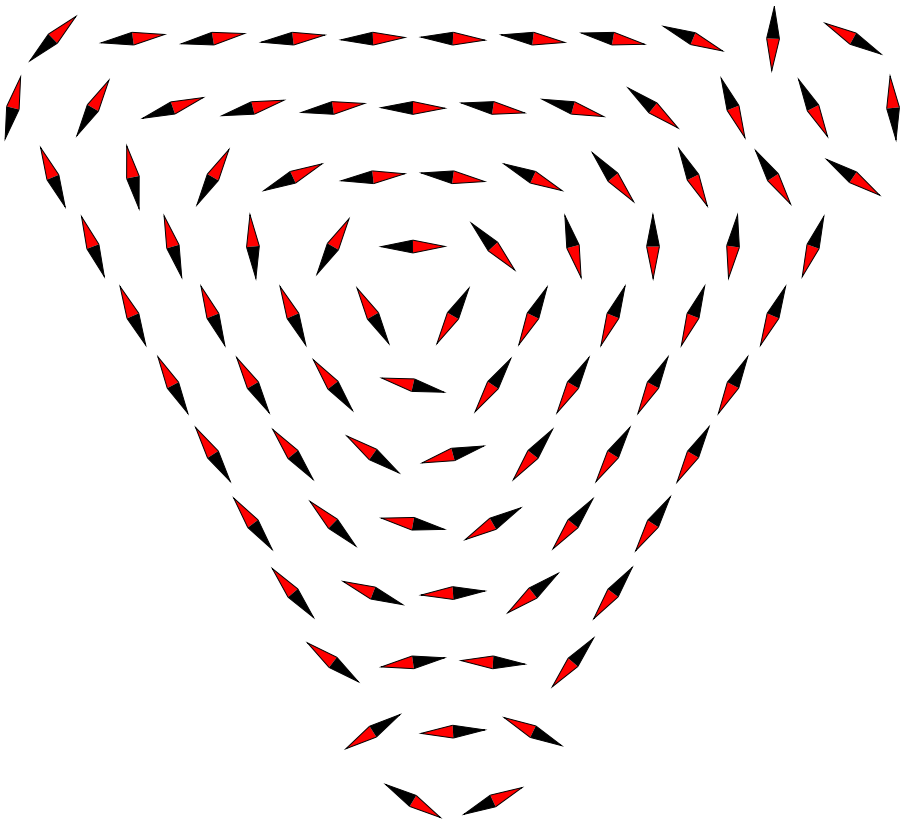


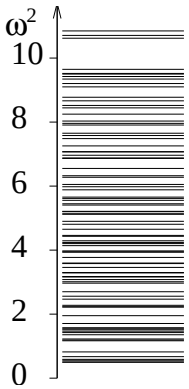


$E_3 = -219.90127$ (38 mal) $\omega_1^2 = 0.43667$

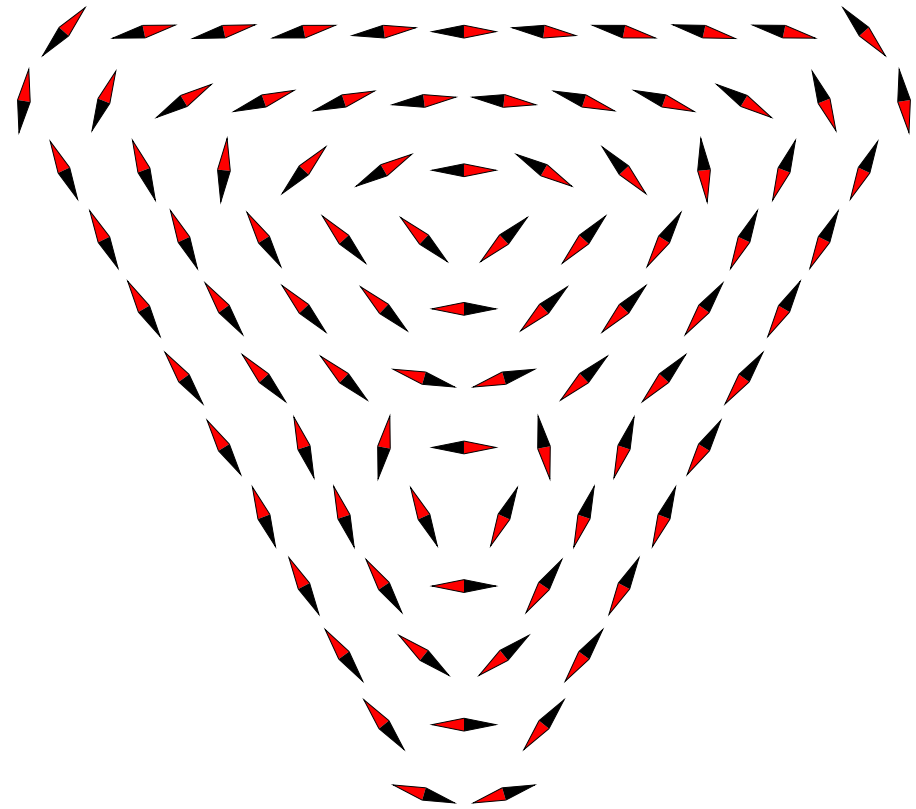


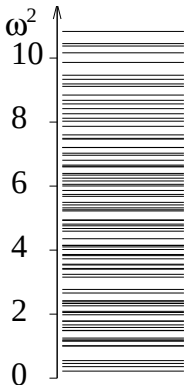
$E_4 = -219.22330$ (74 mal) $\omega_1^2 = 0.13819$



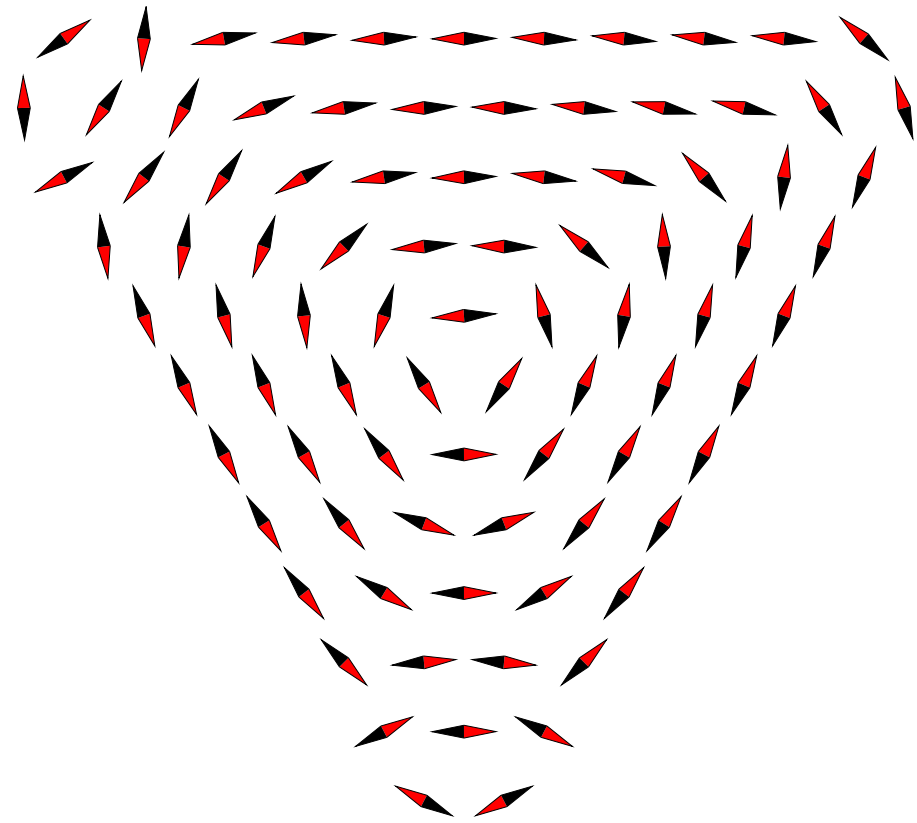


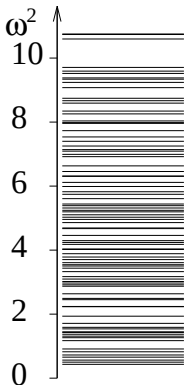
$E_5 = -218.65662$ (13 mal) $\omega_1^2 = 0.49631$



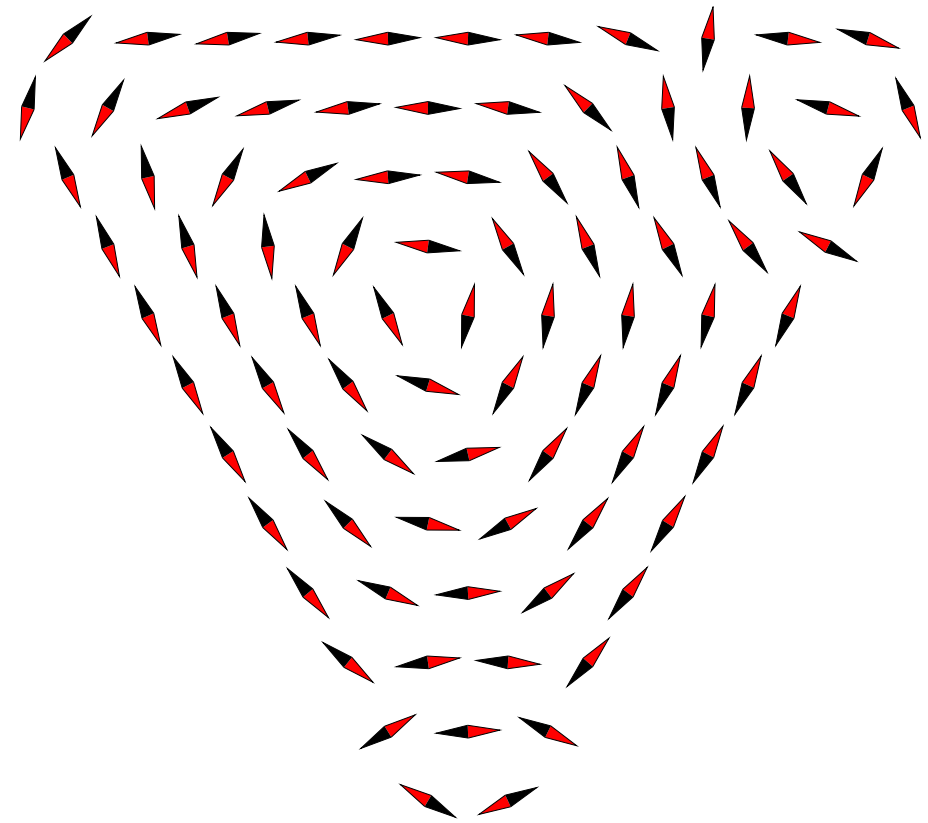


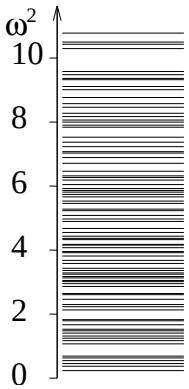
$E_6 = -218.55408$ (2 mal) $\omega_1^2 = 0.22121$



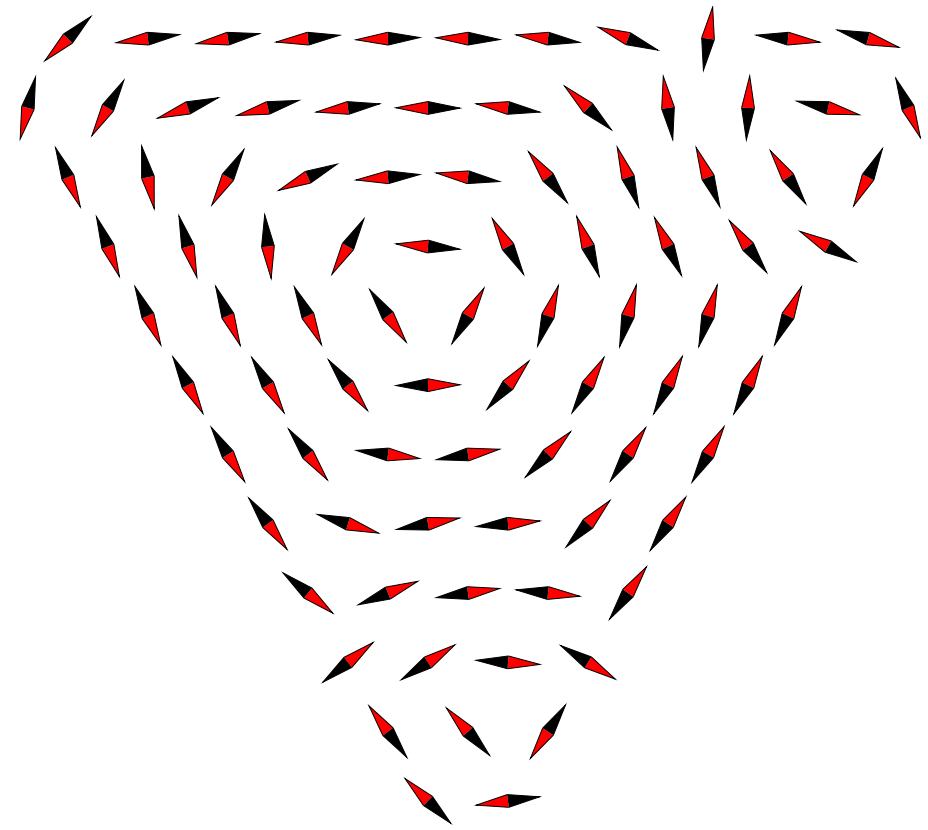


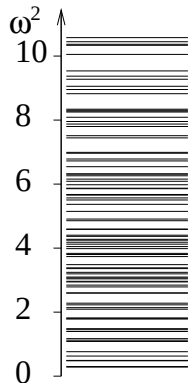
$E_7 = -218.50286$ (55 mal) $\omega_1^2 = 0.43201$



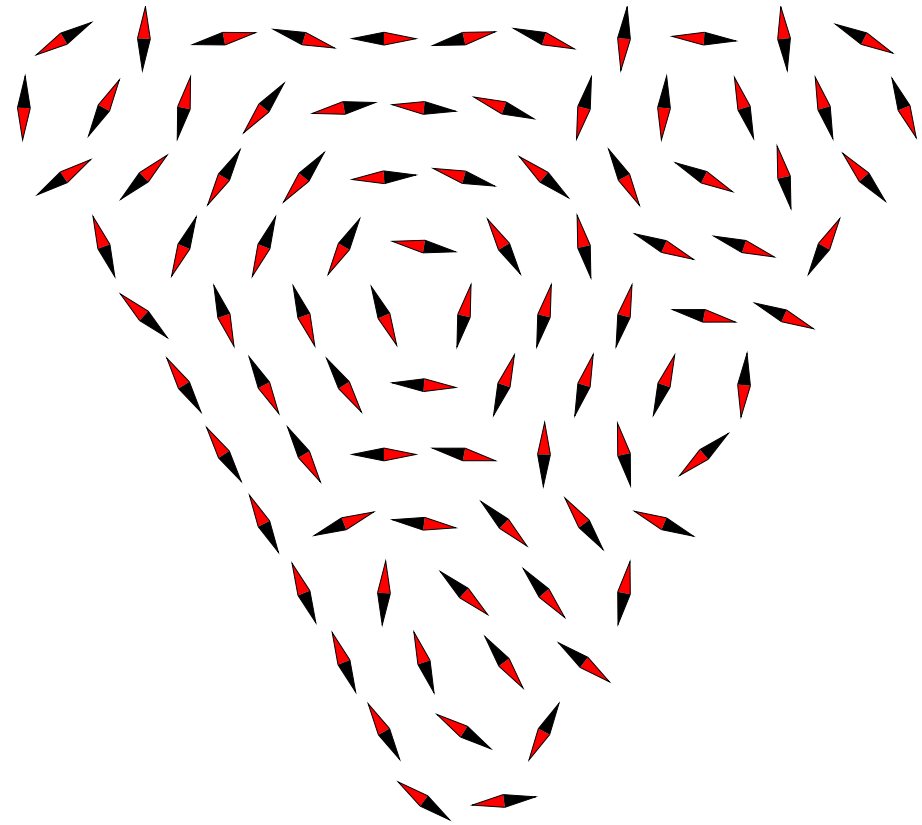


$E_{11} = -217.80552$ (81 mal) $\omega_1^2 = 0.23445$

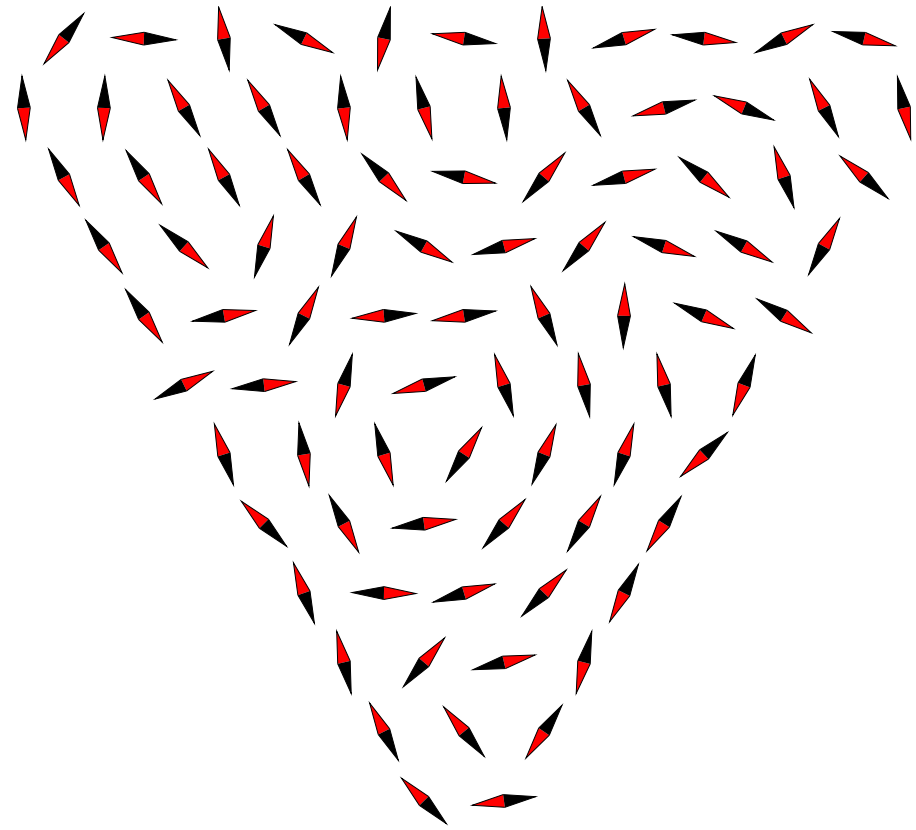


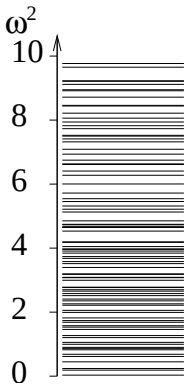


$E_{16} = -216.89606$ (59 mal) $\omega_1^2 = 0.28579$

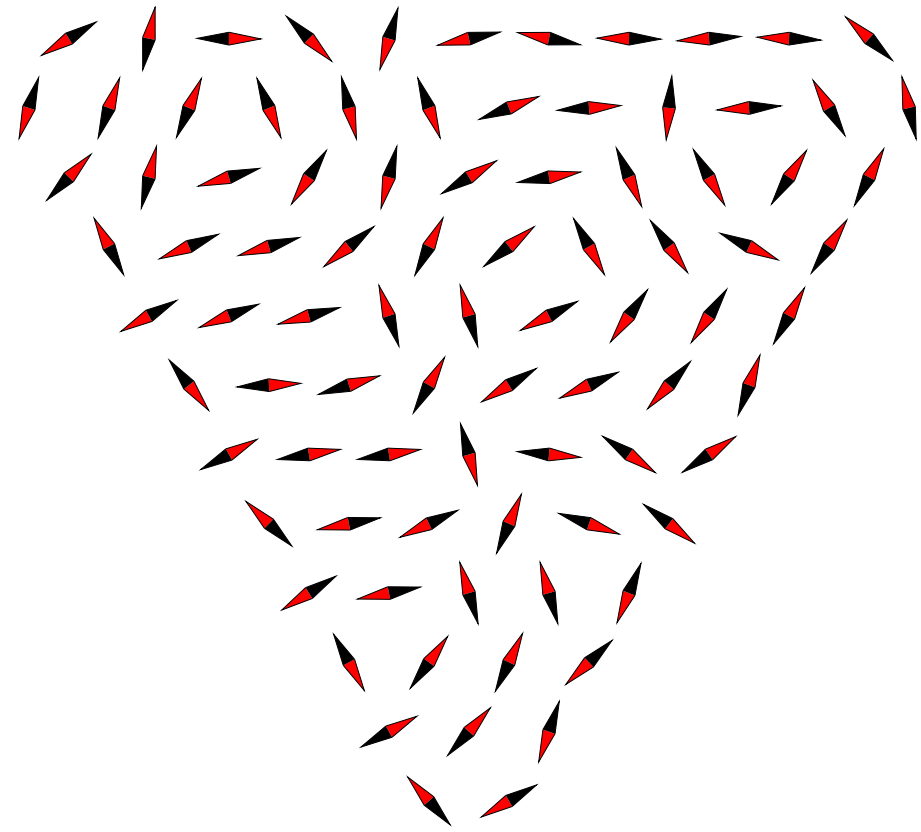


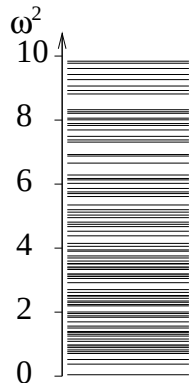
$E_{1338} = -197.69797$ (1 mal) $\omega_1^2 = 0.19473$





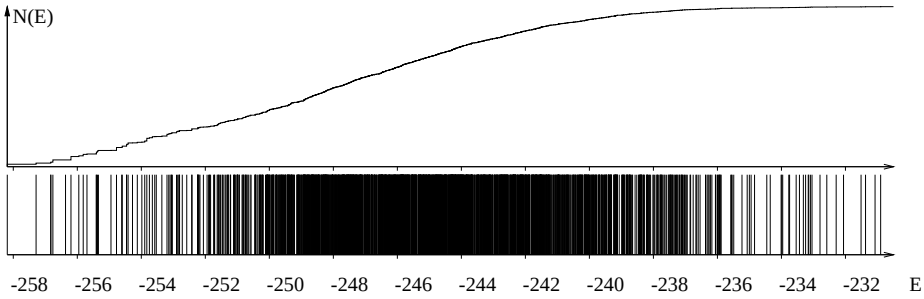
$E_{1339} = -193.92721$ (1 mal) $\omega_1^2 = 0.03077$



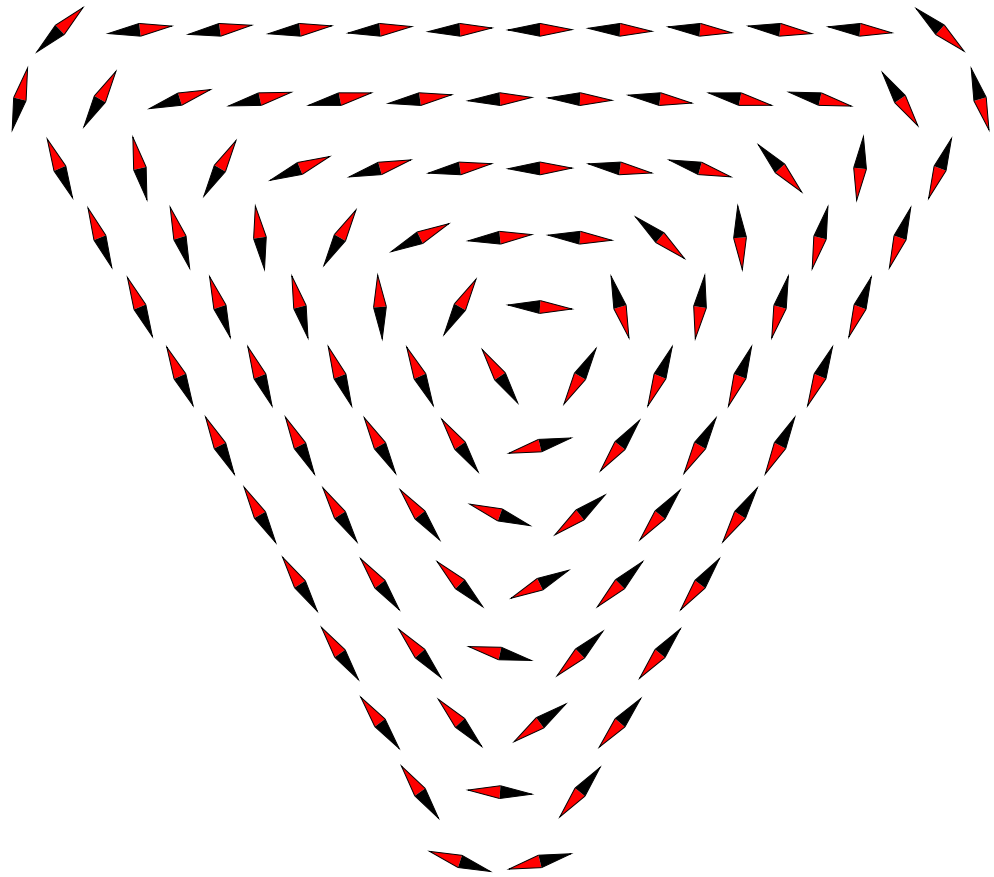


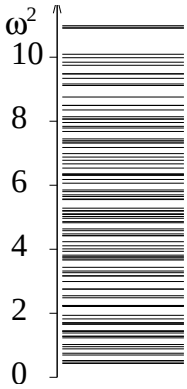
$E_{1340} = -192.79465$ (1 mal) $\omega_1^2 = 0.04530$

Dreiecks-Gitter (11,1)

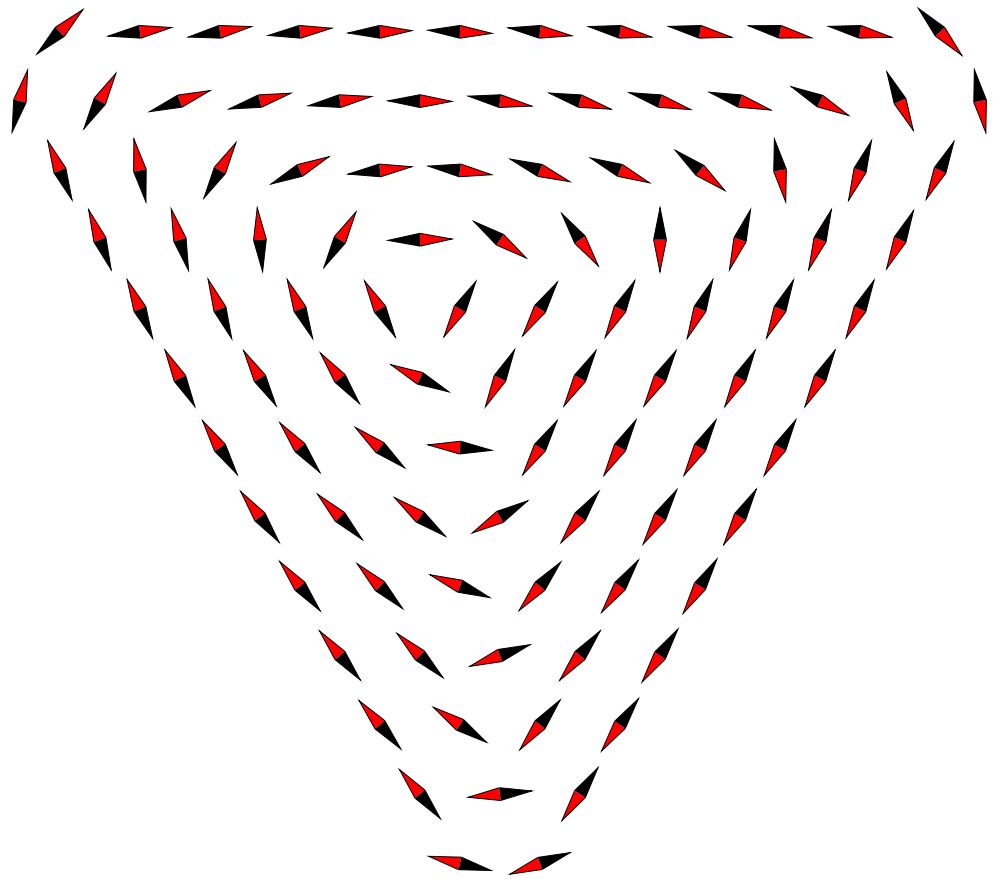


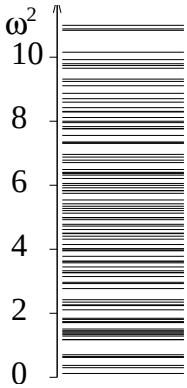
Anzahl Gitterpunkte: 102, Gefundene Energie-Niveaus: 1734, Läufe: 3000



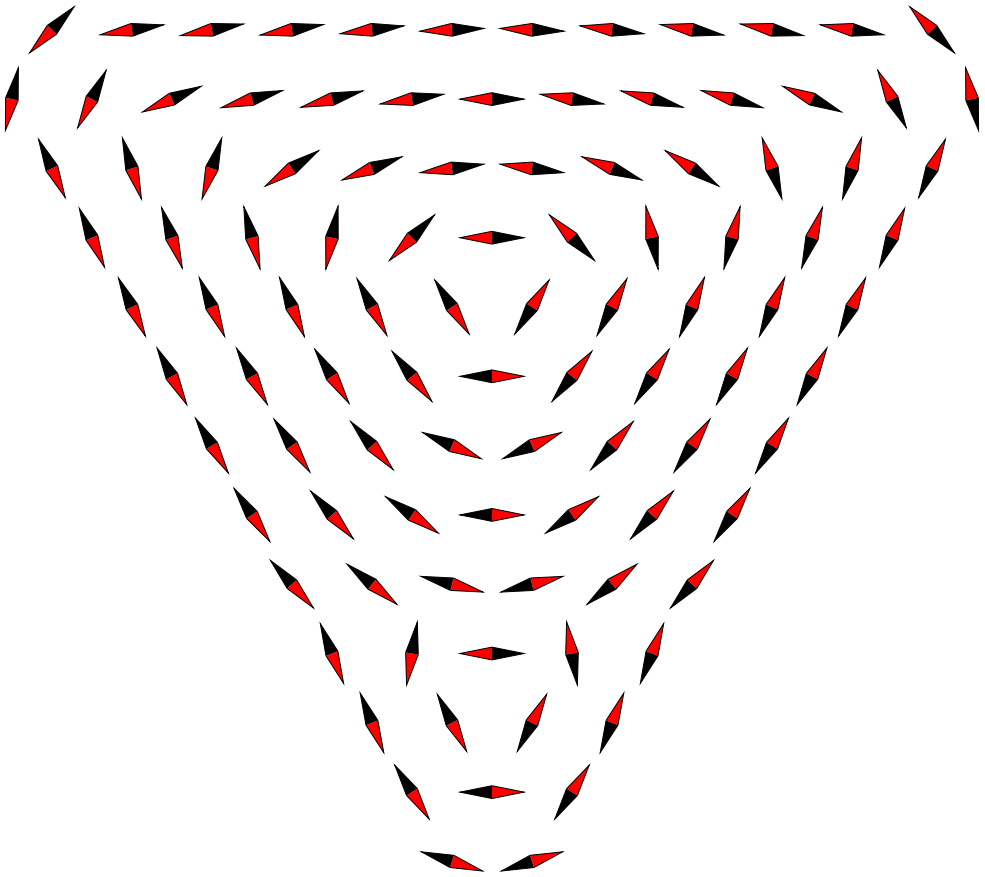


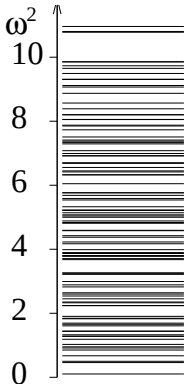
$E_1 = -258.18865$ (47 mal) $\omega_1^2 = 0.43359$



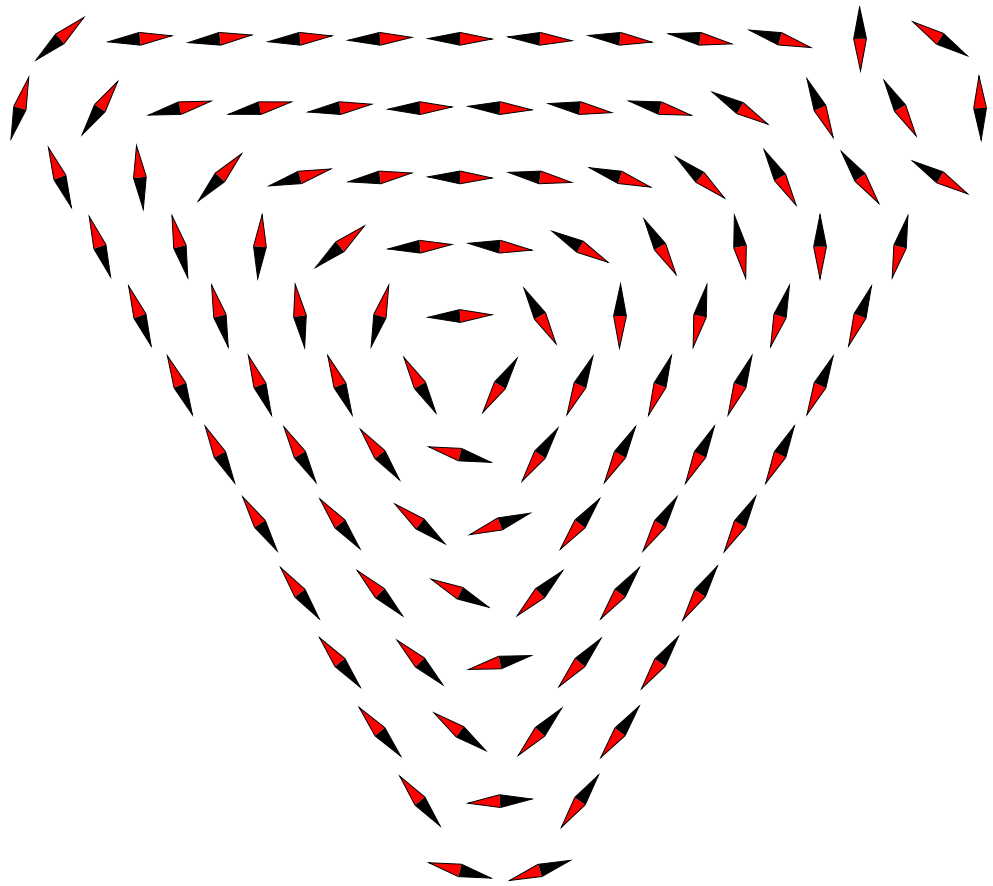


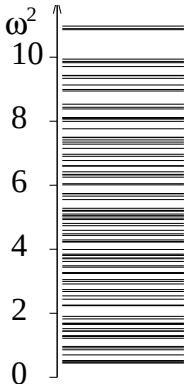
$E_2 = -257.28884$ (21 mal) $\omega_1^2 = 0.12078$



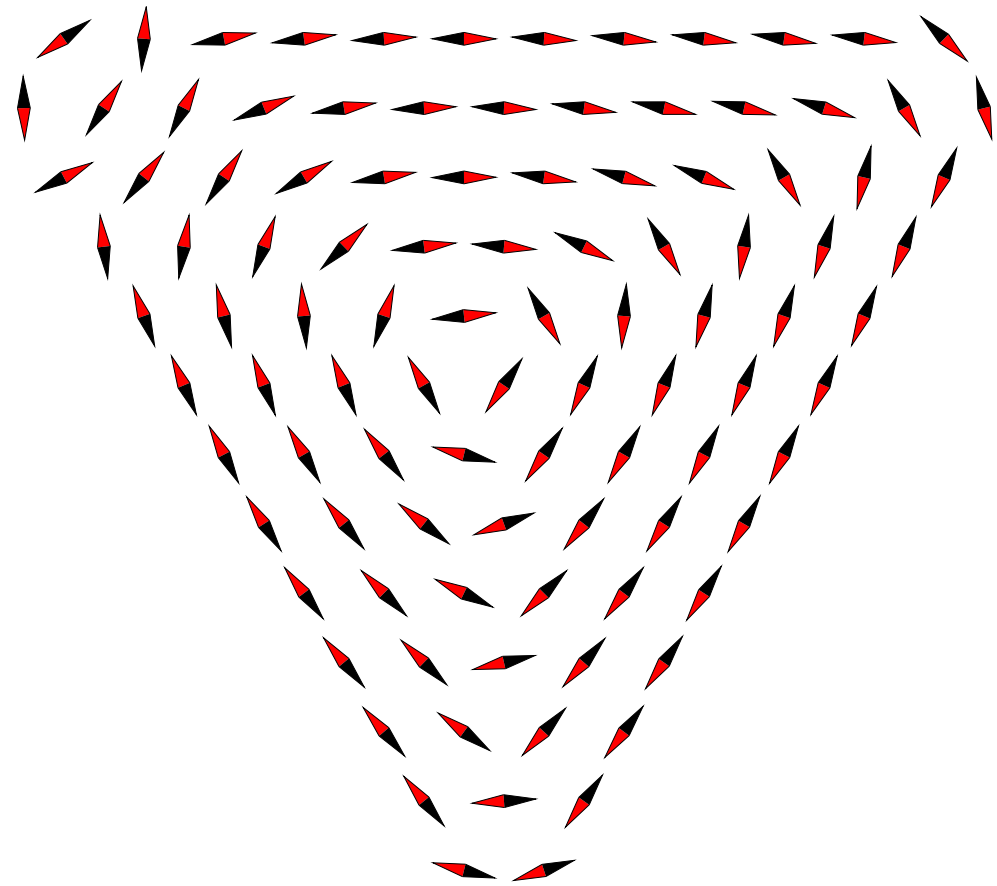


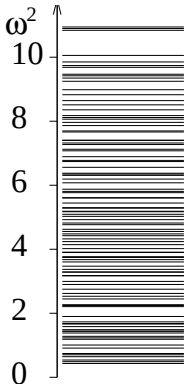
$E_3 = -256.82866$ (2 mal) $\omega_1^2 = 0.10331$



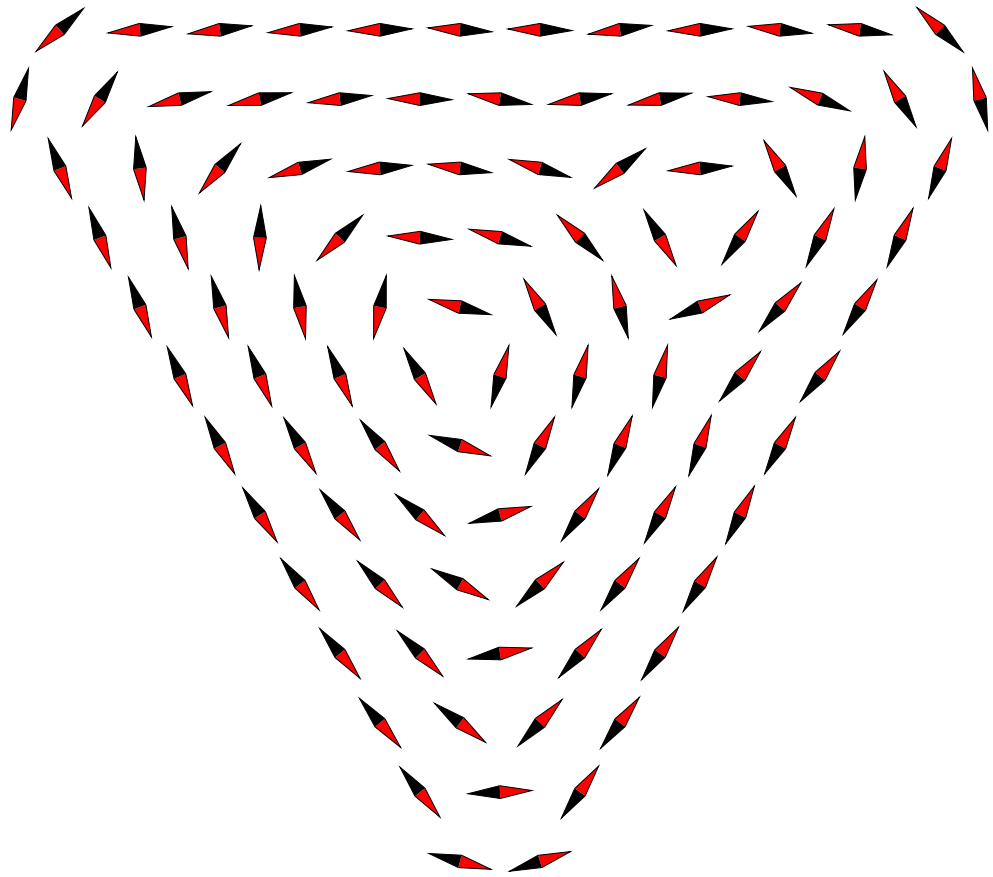


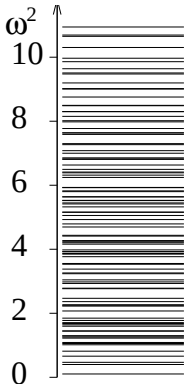
$E_4 = -256.82776$ (16 mal) $\omega_1^2 = 0.44523$



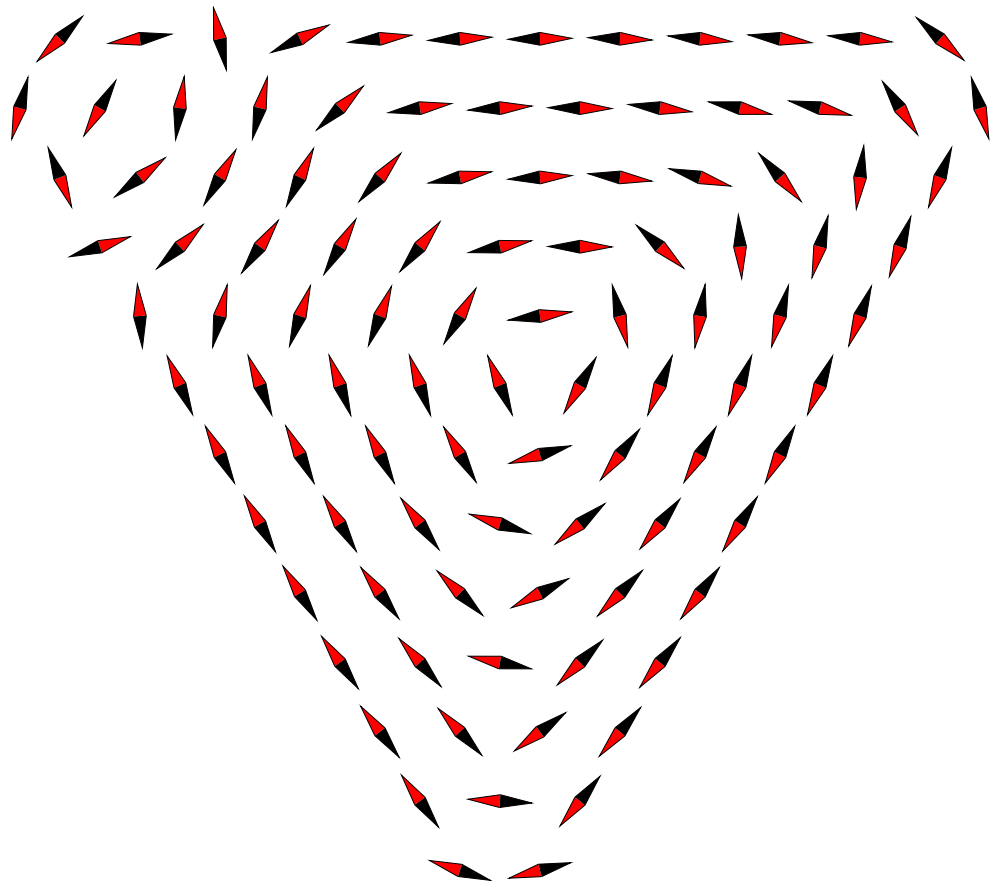


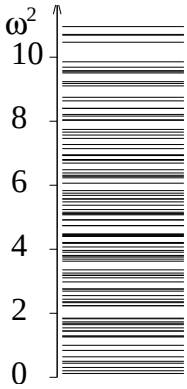
$E_5 = -256.76314$ (41 mal) $\omega_1^2 = 0.43096$



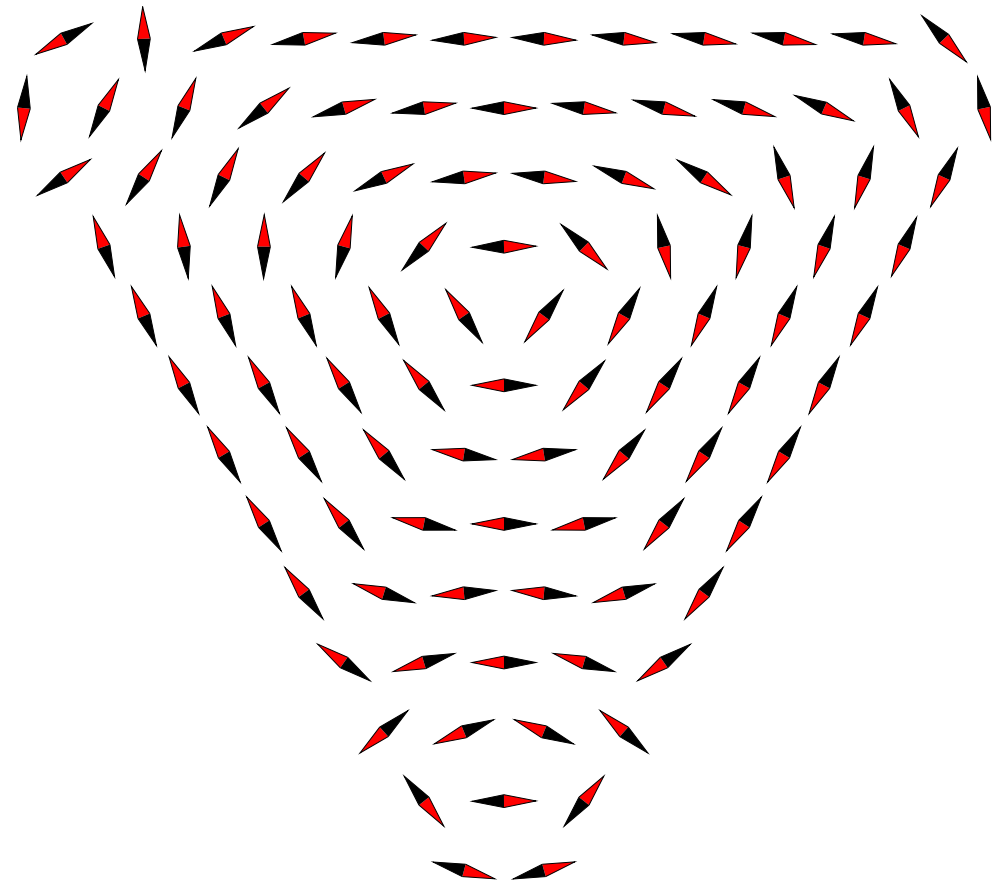


$E_6 = -256.36953$ (1 mal) $\omega_1^2 = 0.10592$

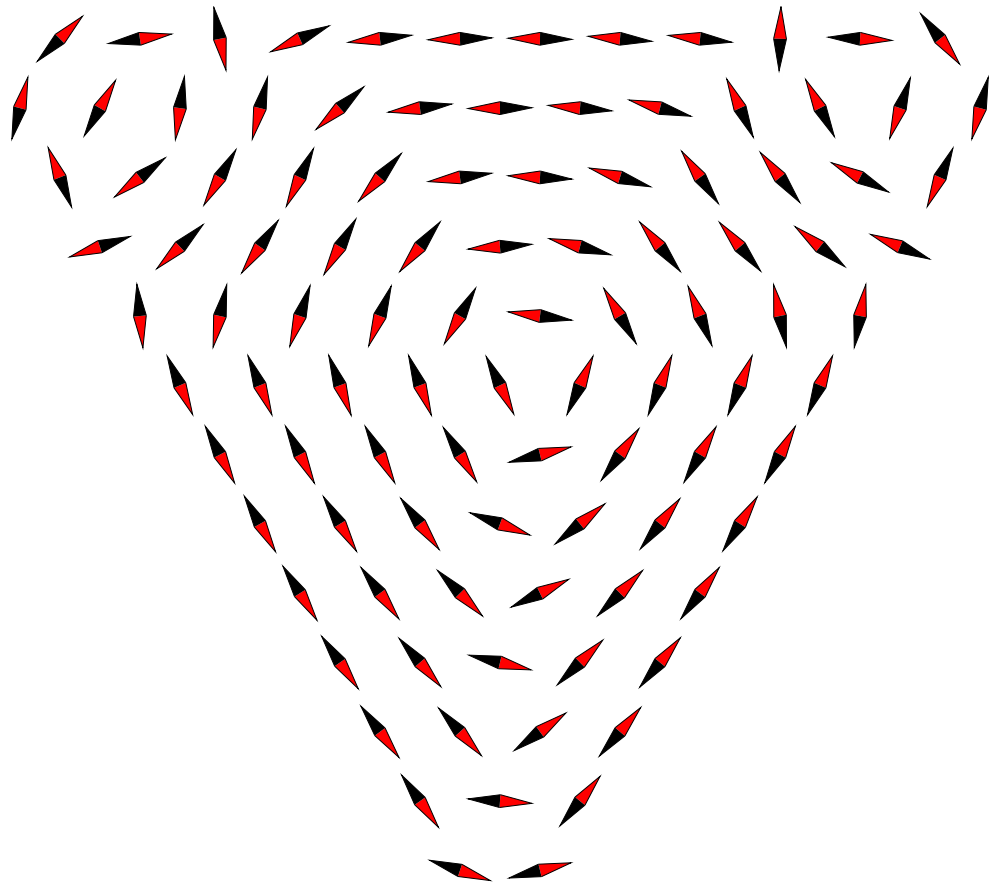


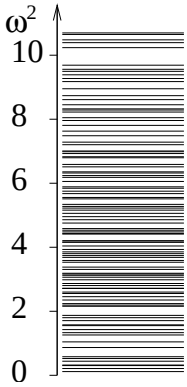


$E_7 = -256.19850$ (62 mal) $\omega_1^2 = 0.12150$

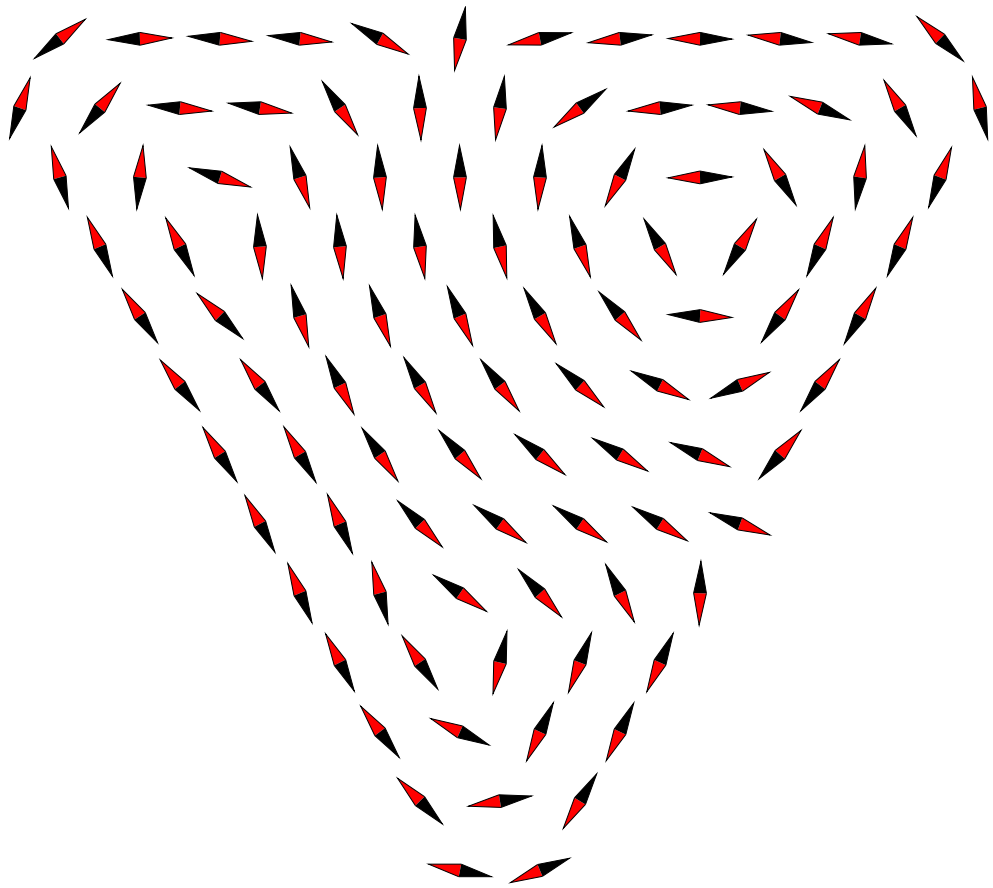


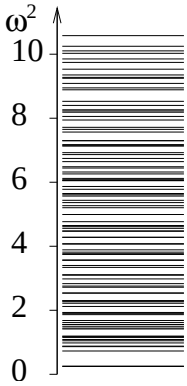
$E_{16} = -254.77626$ (54 mal) $\omega_1^2 = 0.12145$



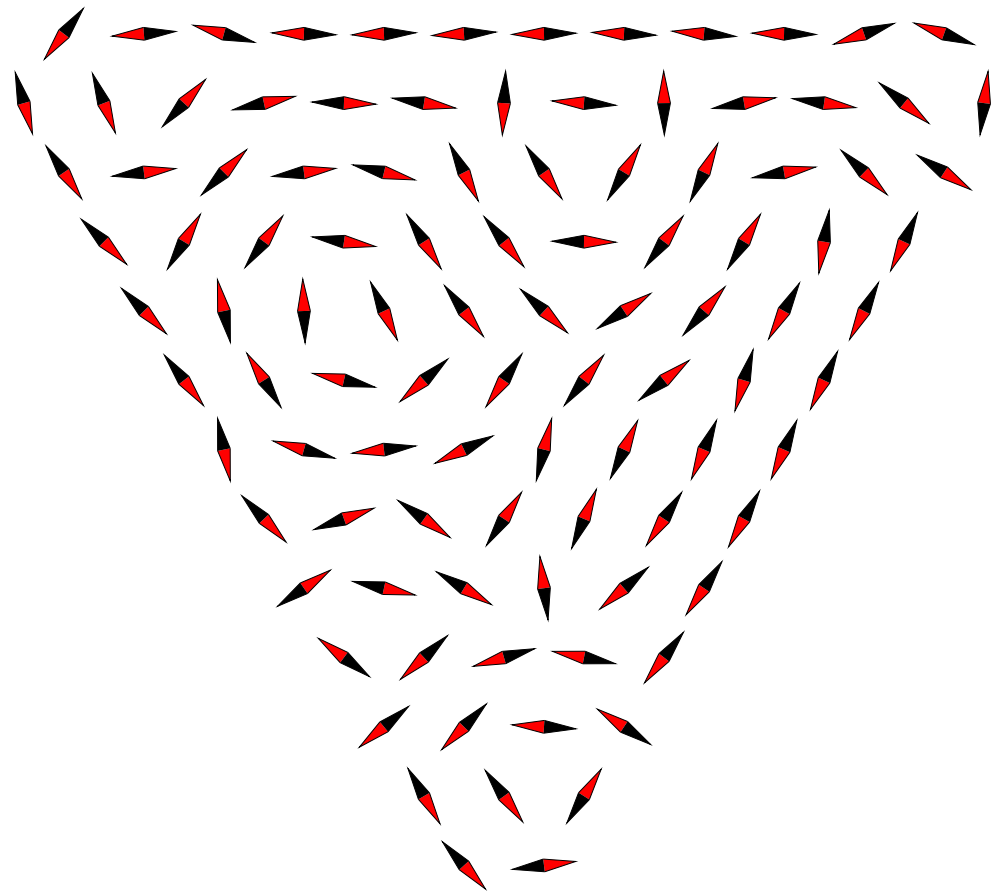


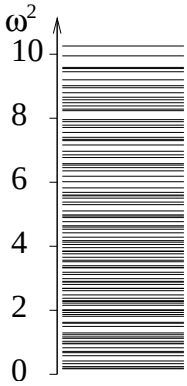
$E_{26} = -253.82765$ (51 mal) $\omega_1^2 = 0.11715$



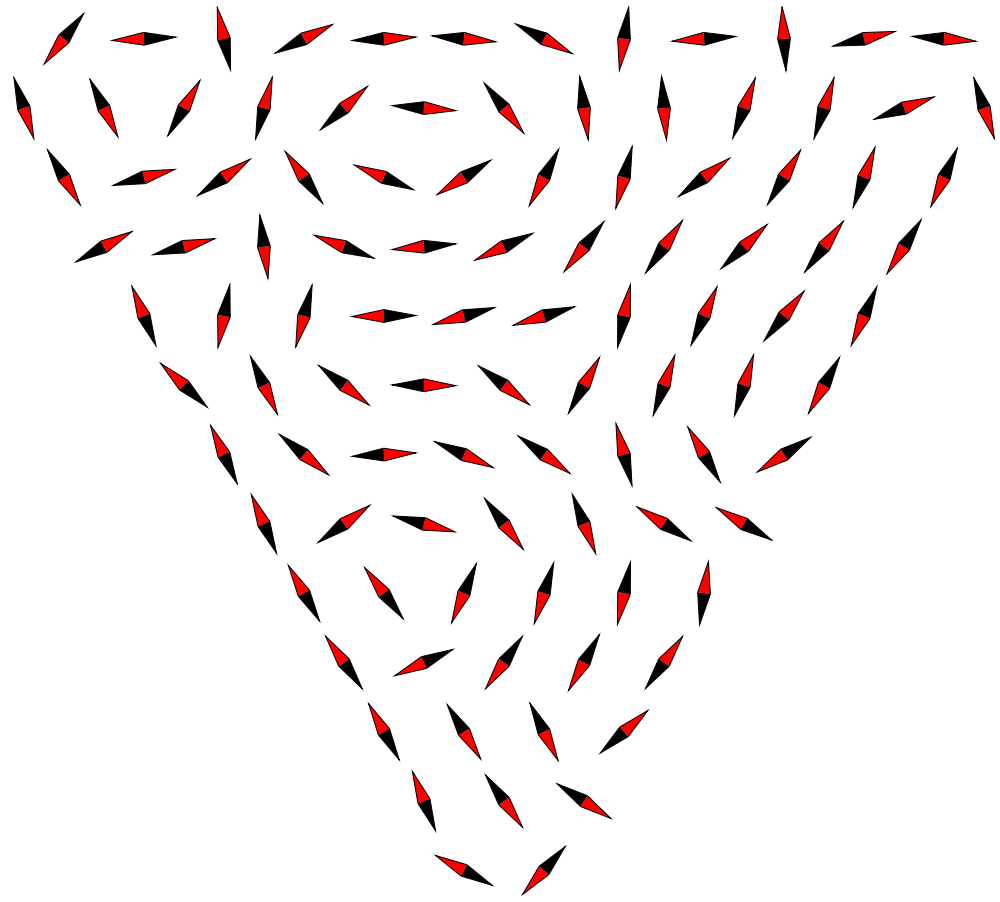


$E_{32} = -253.19874$ (33 mal) $\omega_1^2 = 0.24259$

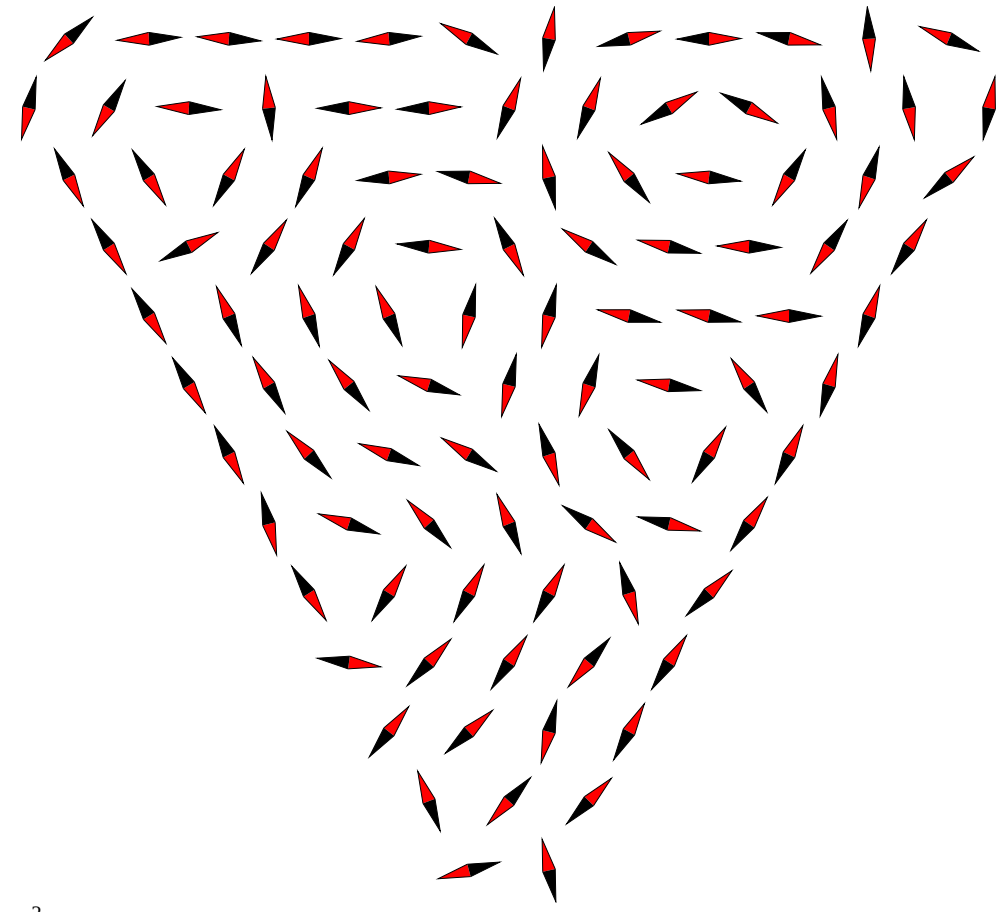


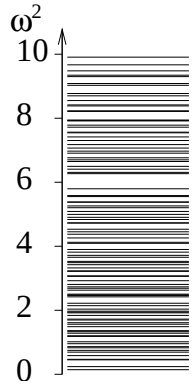


$E_{1732} = -231.37352$ (1 mal) $\omega_1^2 = 0.17177$



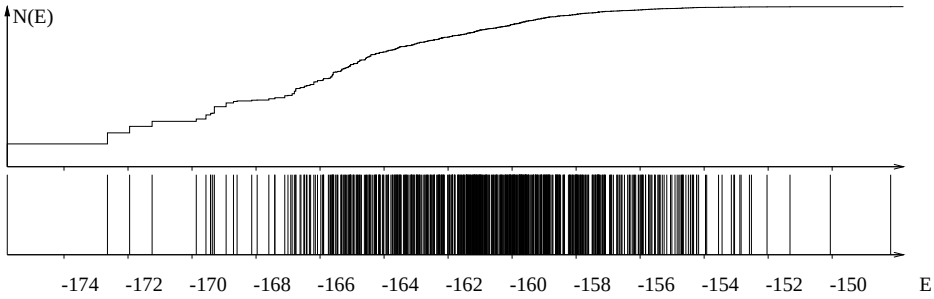
$E_{1733} = -231.07576$ (1 mal) $\omega_1^2 = 0.03799$



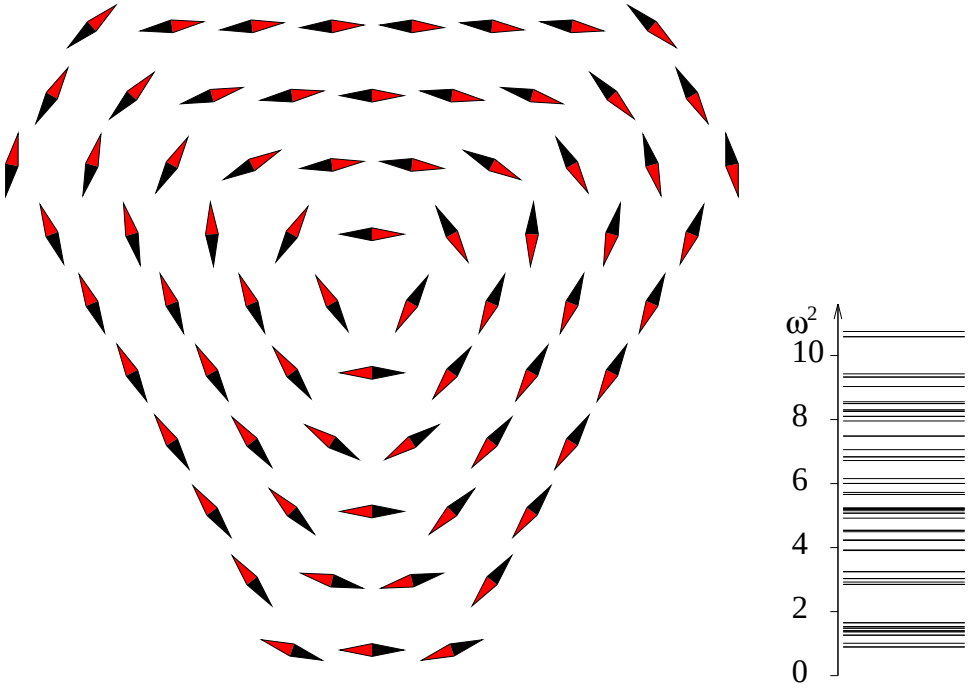


$E_{1734} = -230.90076$ (1 mal) $\omega_1^2 = 0.14557$

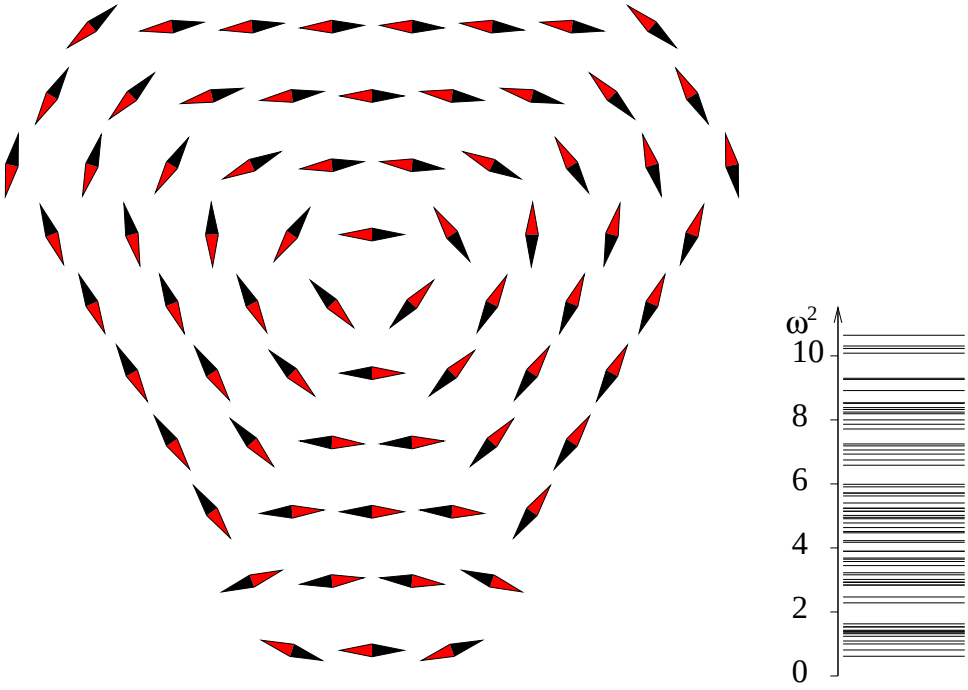
Dreiecks-Gitter (7,2)



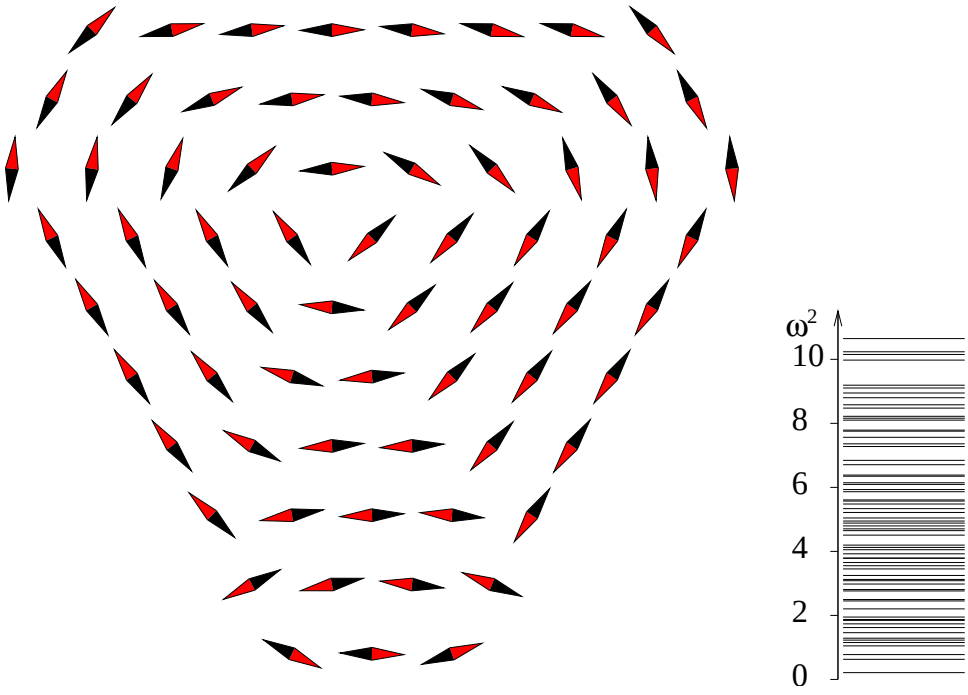
Anzahl Gitterpunkte: 69, Gefundene Energie-Niveaus: 648, Läufe: 3000



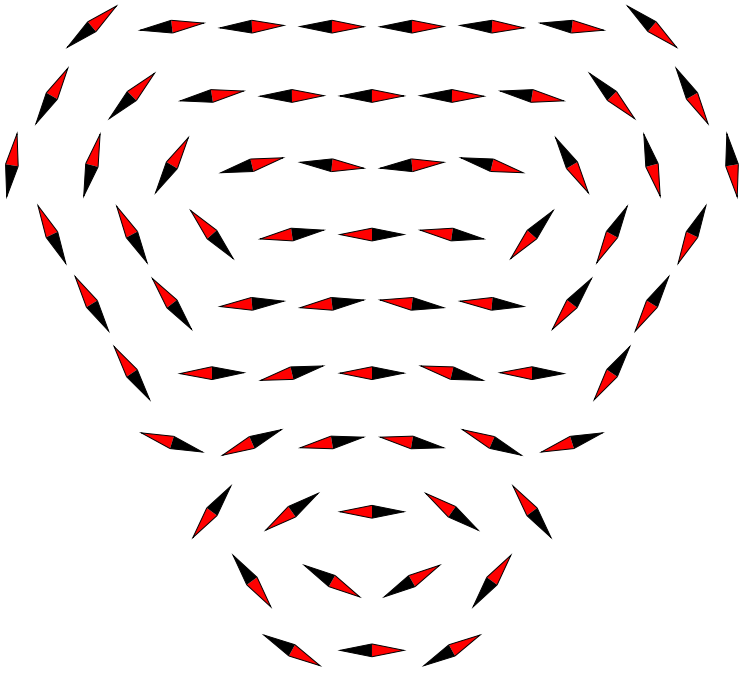
$E_1 = -175.77160$ (428 mal) $\omega_1^2 = 0.89681$



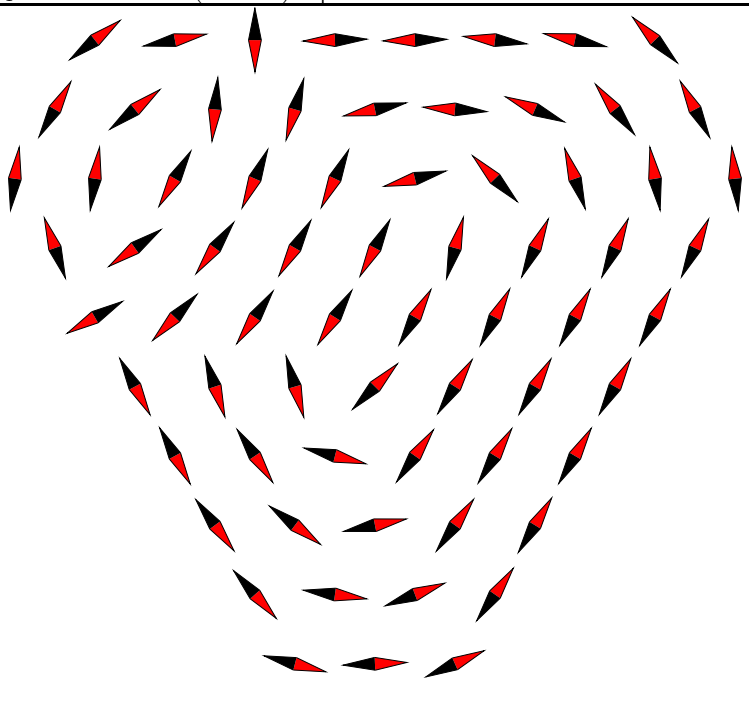
$E_2 = -172.64203$ (206 mal) $\omega_1^2 = 0.61651$



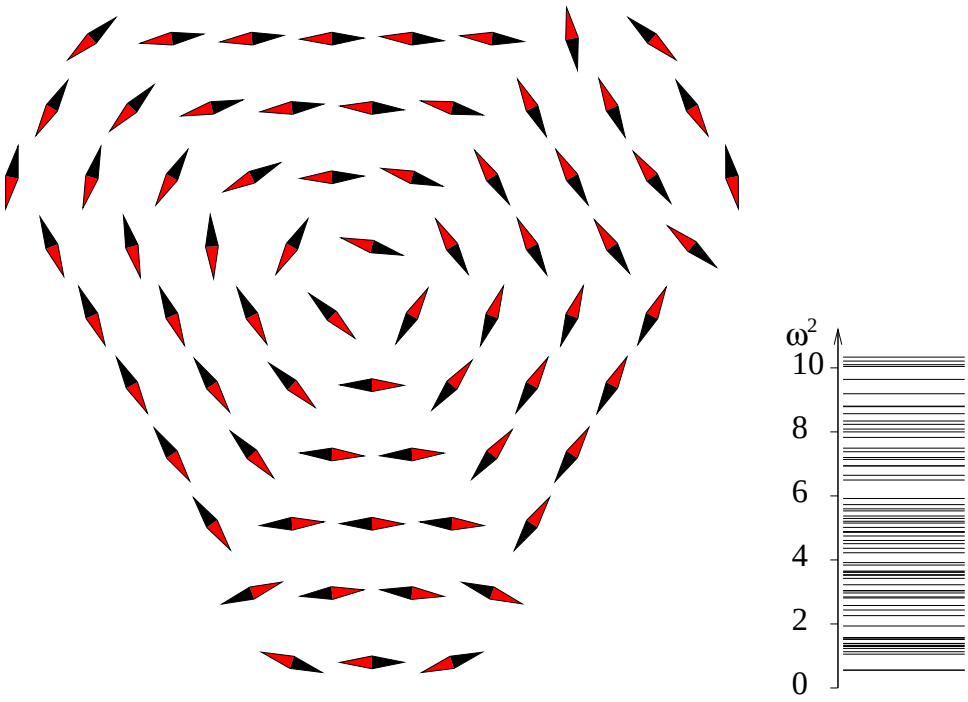
$E_3 = -171.94853$ (122 mal) $\omega_1^2 = 0.21084$



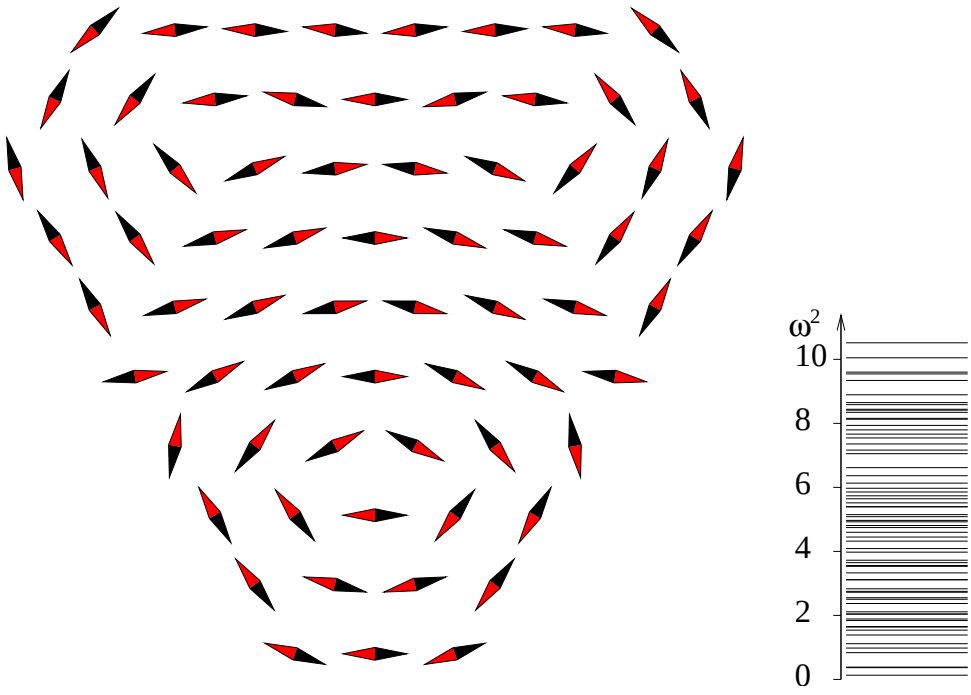
$E_4 = -171.24714$ (95 mal) $\omega_1^2 = 0.25469$



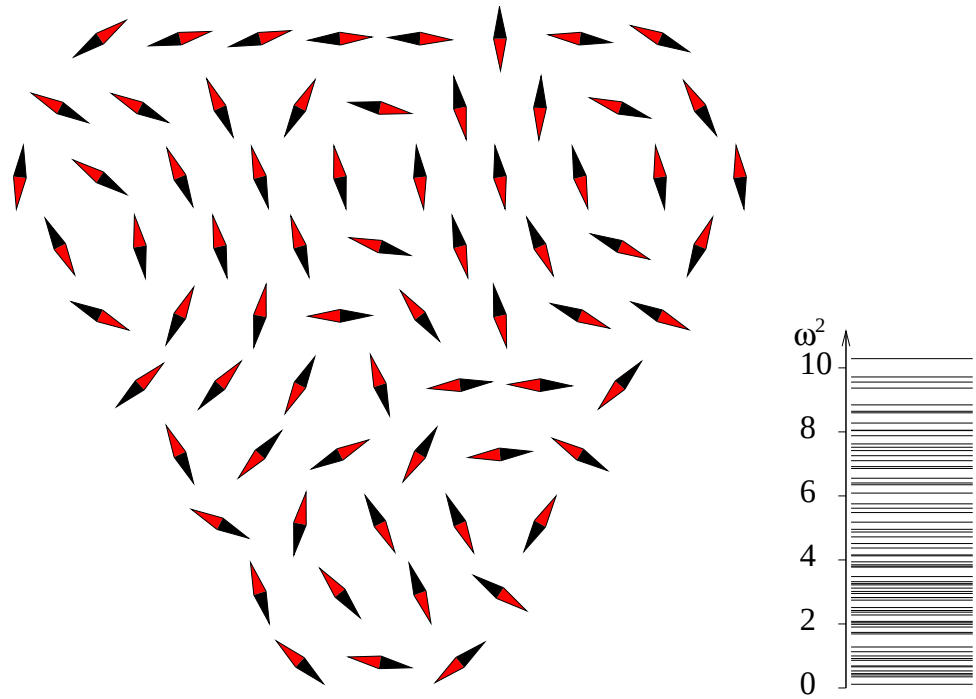
$E_5 = -169.86603$ (43 mal) $\omega_1^2 = 0.38142$



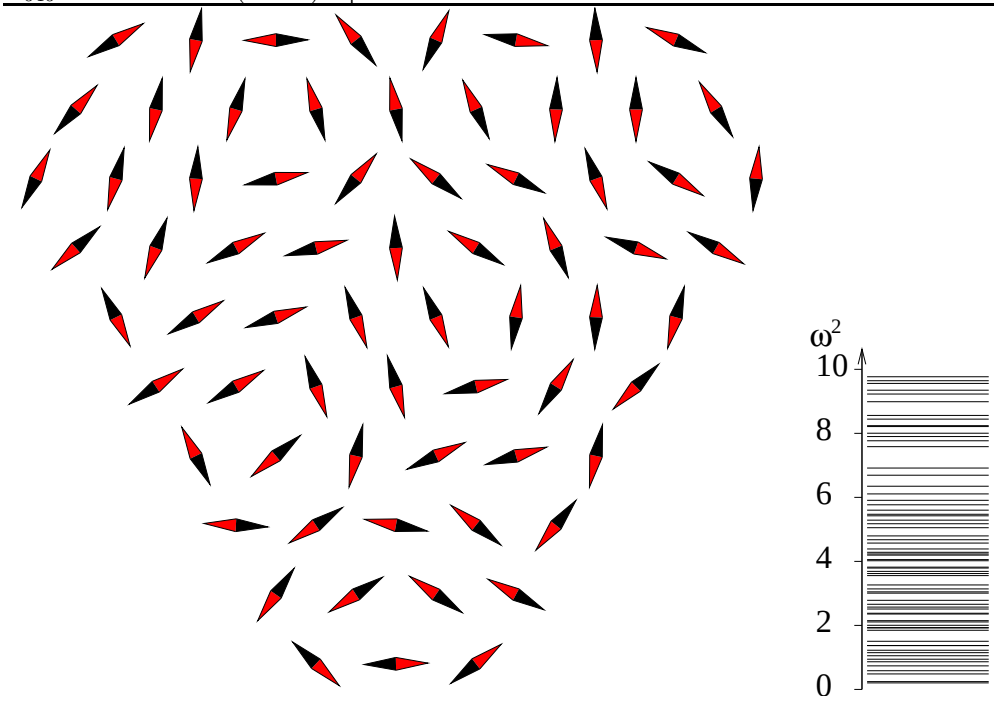
$E_6 = -169.56349$ (77 mal) $\omega_1^2 = 0.55465$



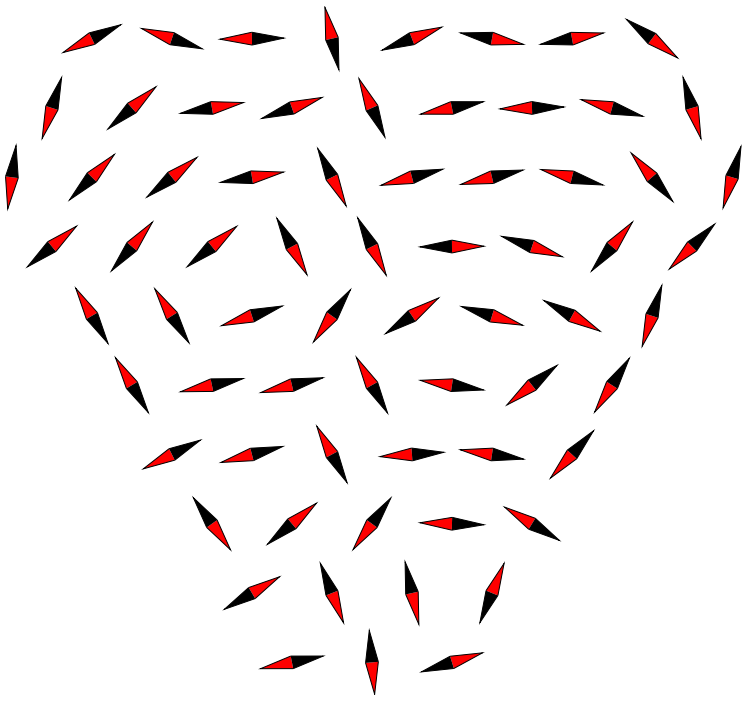
$E_{10} = -169.30134$ (121 mal) $\omega_1^2 = 0.13066$



$E_{646} = -151.31624$ (1 mal) $\omega_1^2 = 0.11609$

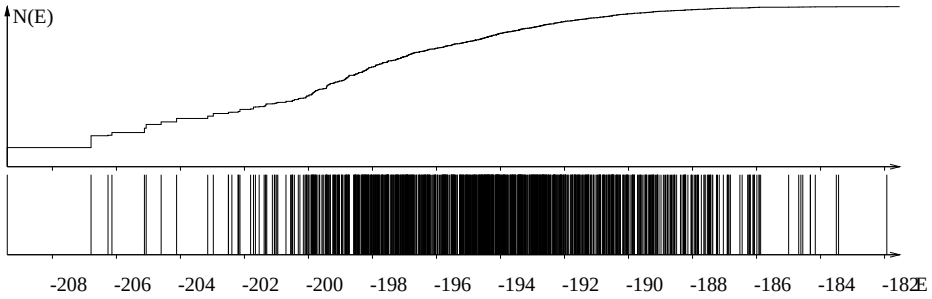


$E_{647} = -150.05588$ (1 mal) $\omega_1^2 = 0.20382$

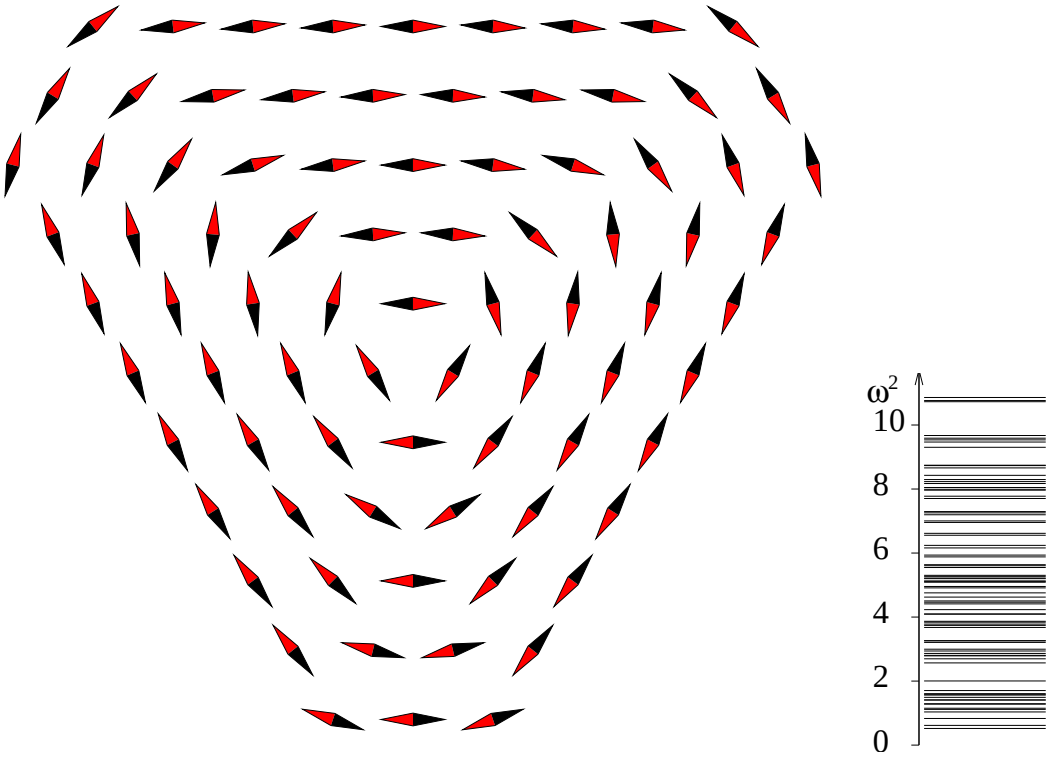


$E_{648} = -148.17155$ (1 mal) $\omega_1^2 = 0.11900$

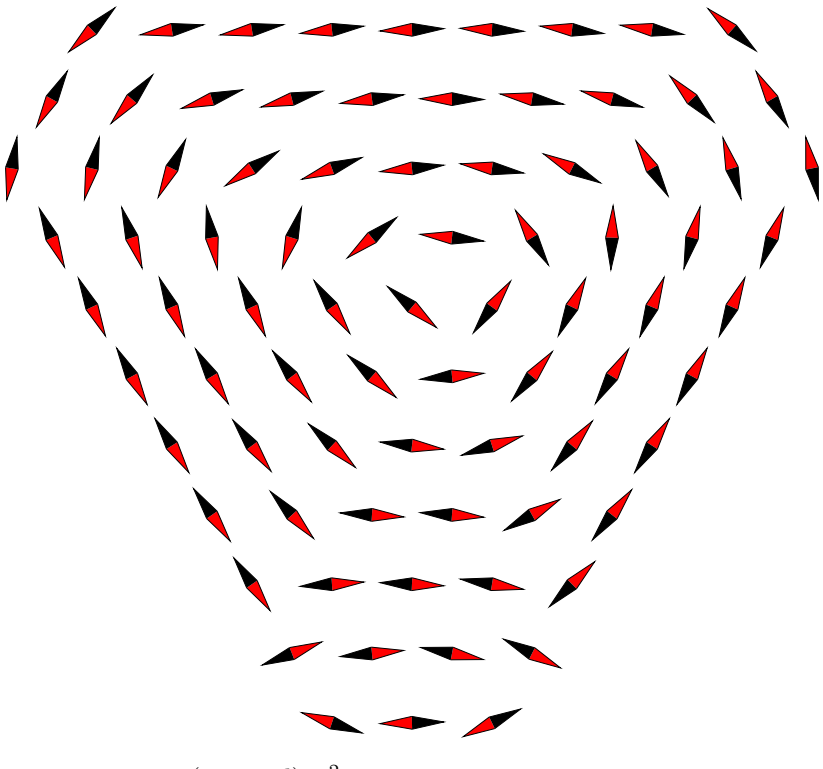
Dreiecks-Gitter (8,2)



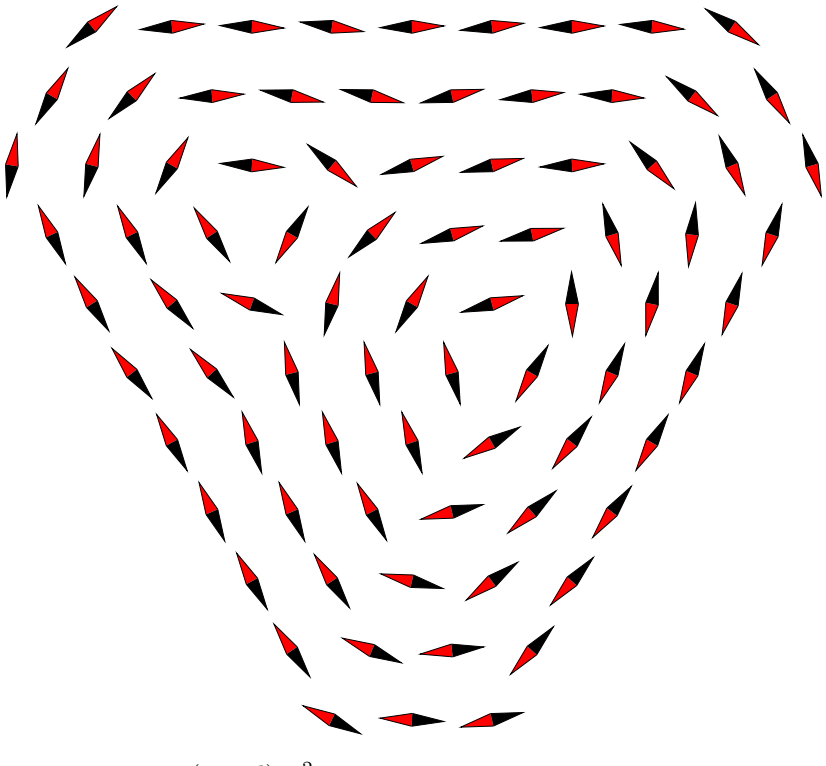
Anzahl Gitterpunkte: 82, Gefundene Energie-Niveaus: 1005, Läufe: 3000



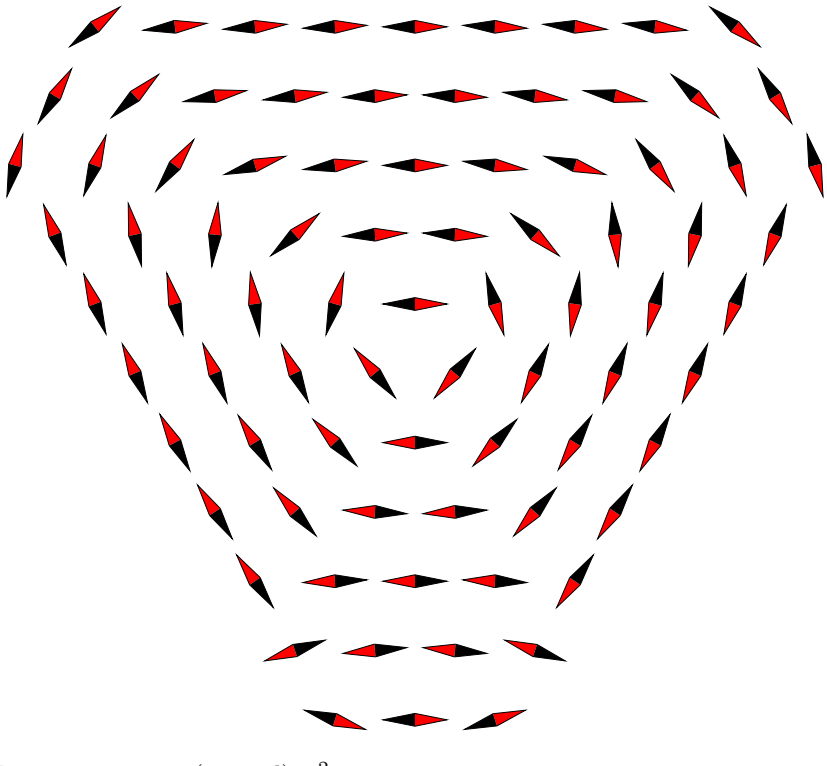
$E_1 = -209.41036$ (358 mal) $\omega_1^2 = 0.52019$



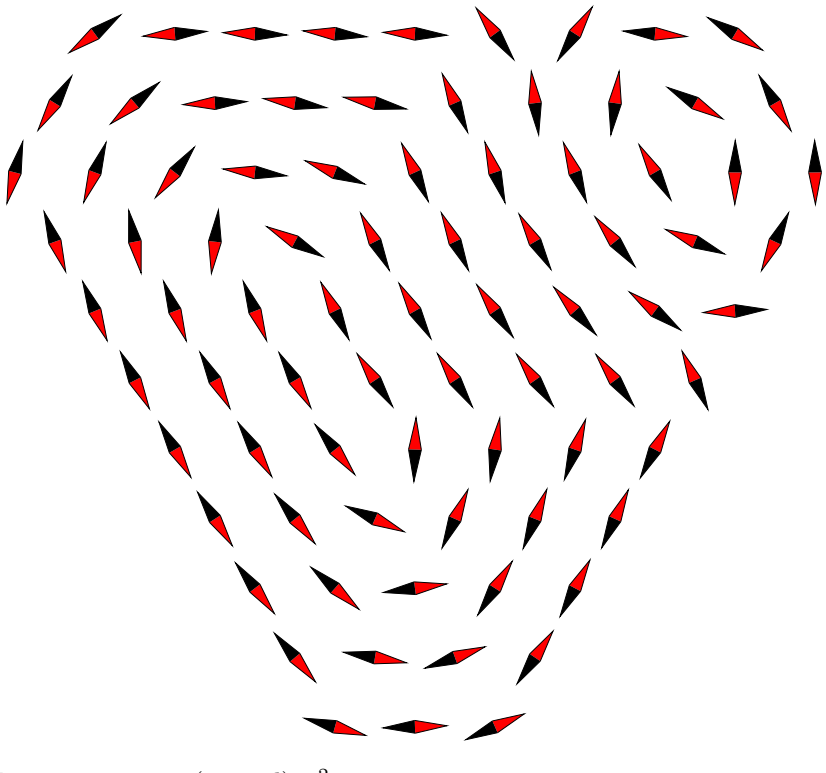
$E_2 = -206.79313$ (223 mal) $\omega_1^2 = 0.25646$



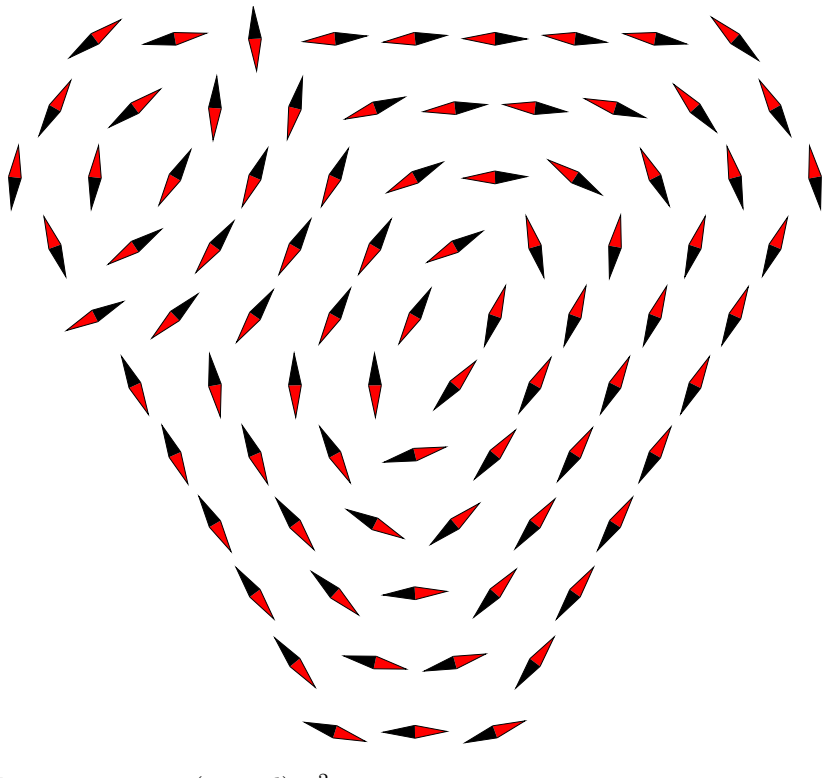
$E_3 = -206.26246$ (8 mal) $\omega_1^2 = 0.17747$



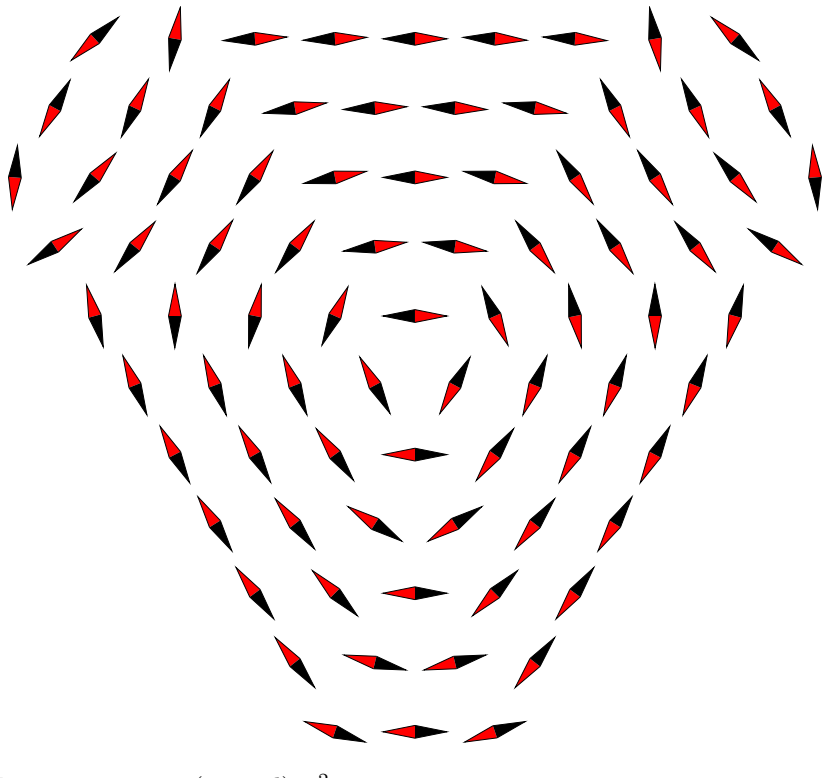
$E_4 = -206.14107$ (51 mal) $\omega_1^2 = 0.40523$



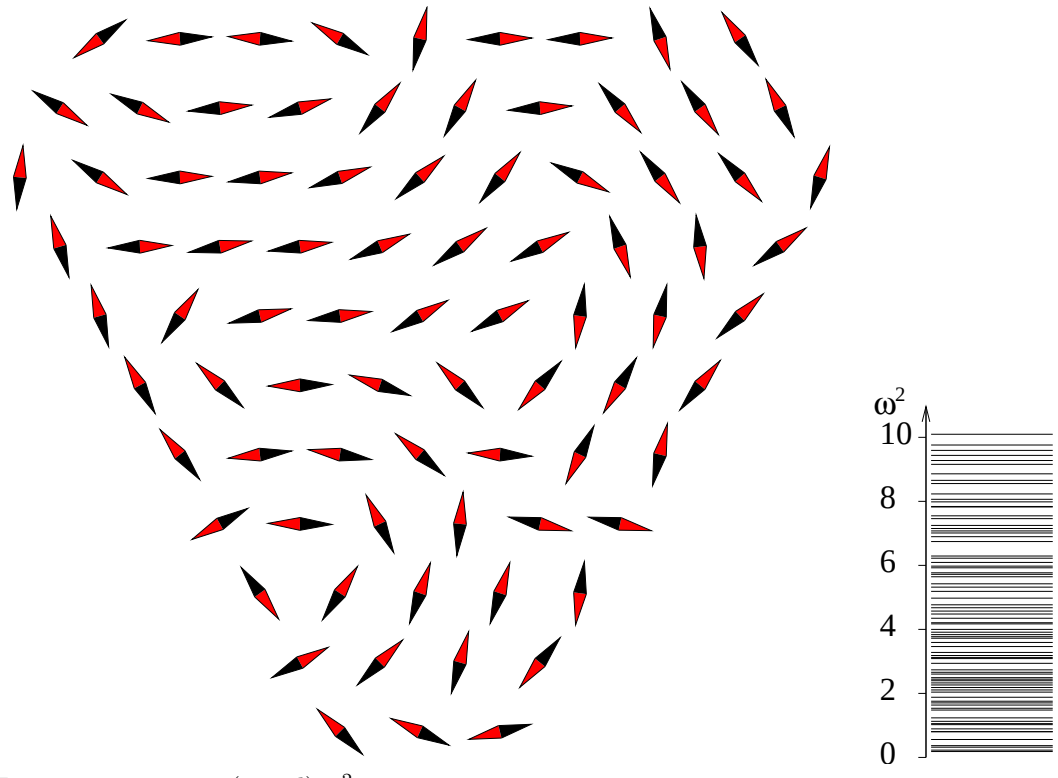
$E_5 = -205.12633$ (81 mal) $\omega_1^2 = 0.16947$



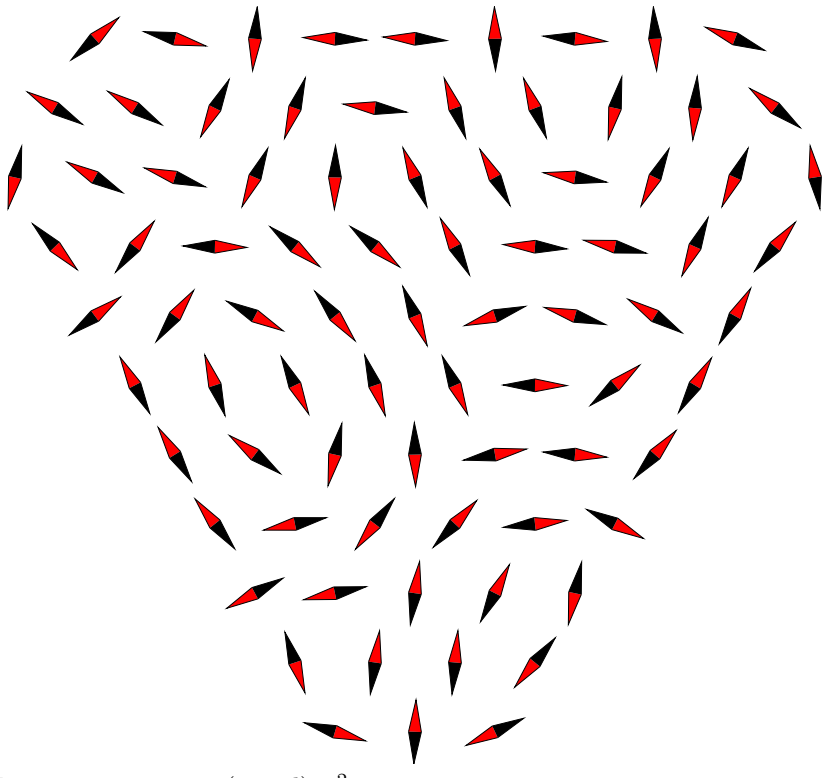
$E_6 = -205.07108$ (71 mal) $\omega_1^2 = 0.18227$



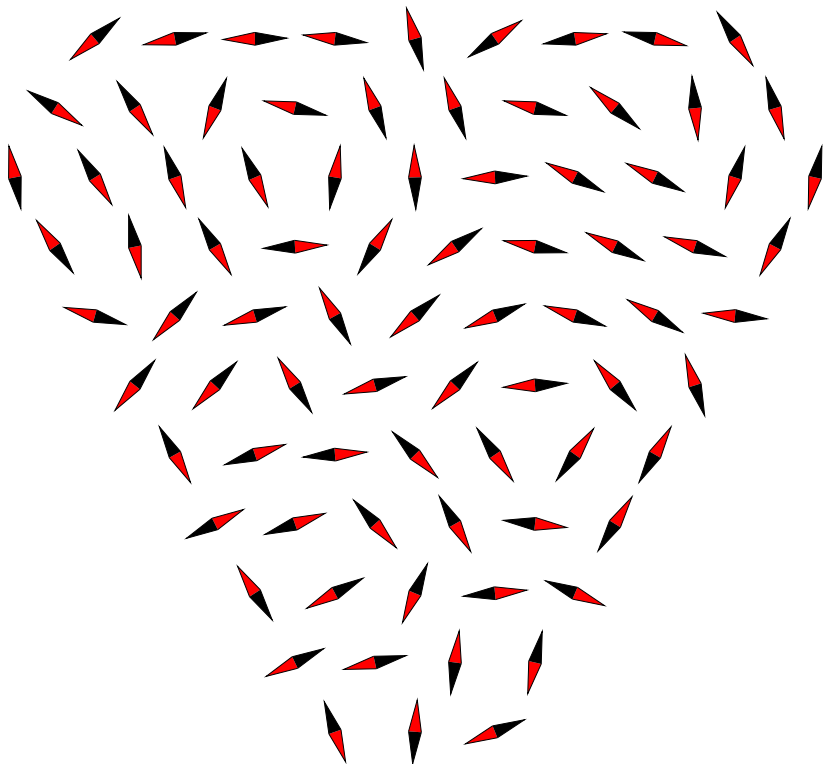
$E_8 = -204.12052$ (65 mal) $\omega_1^2 = 0.52205$



$E_{1003} = -183.50692$ (1 mal) $\omega_1^2 = 0.18322$

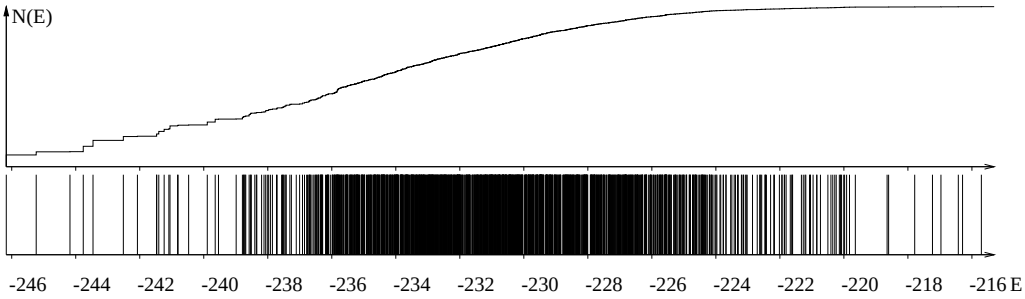


$E_{1004} = -183.43812$ (1 mal) $\omega_1^2 = 0.28122$

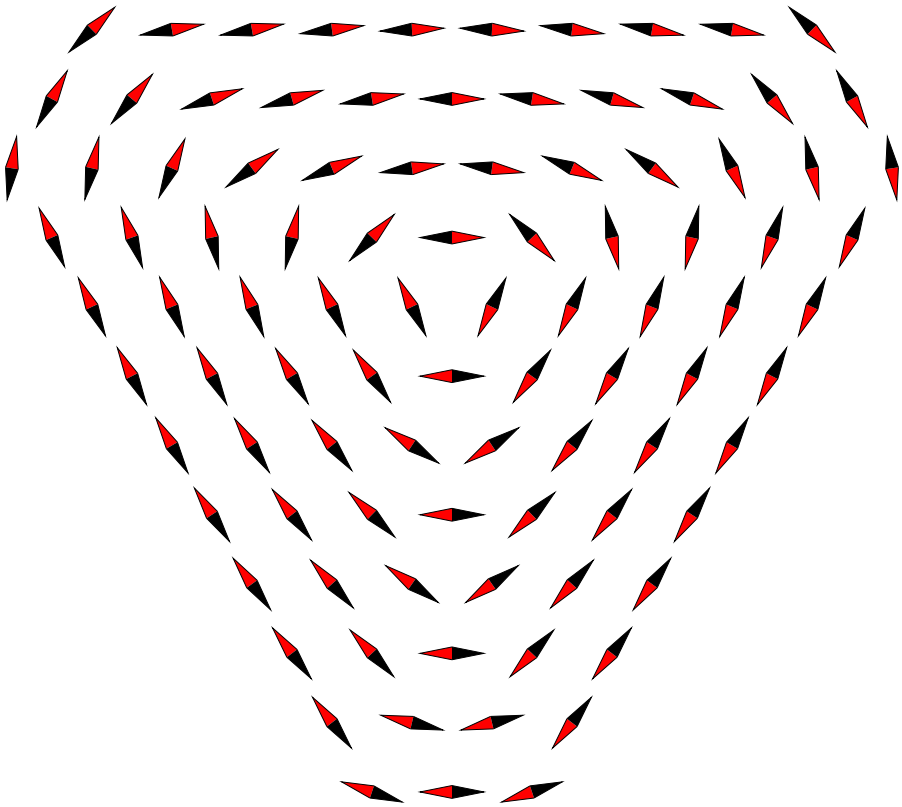


$E_{1005} = -181.93115$ (1 mal) $\omega_1^2 = 0.13647$

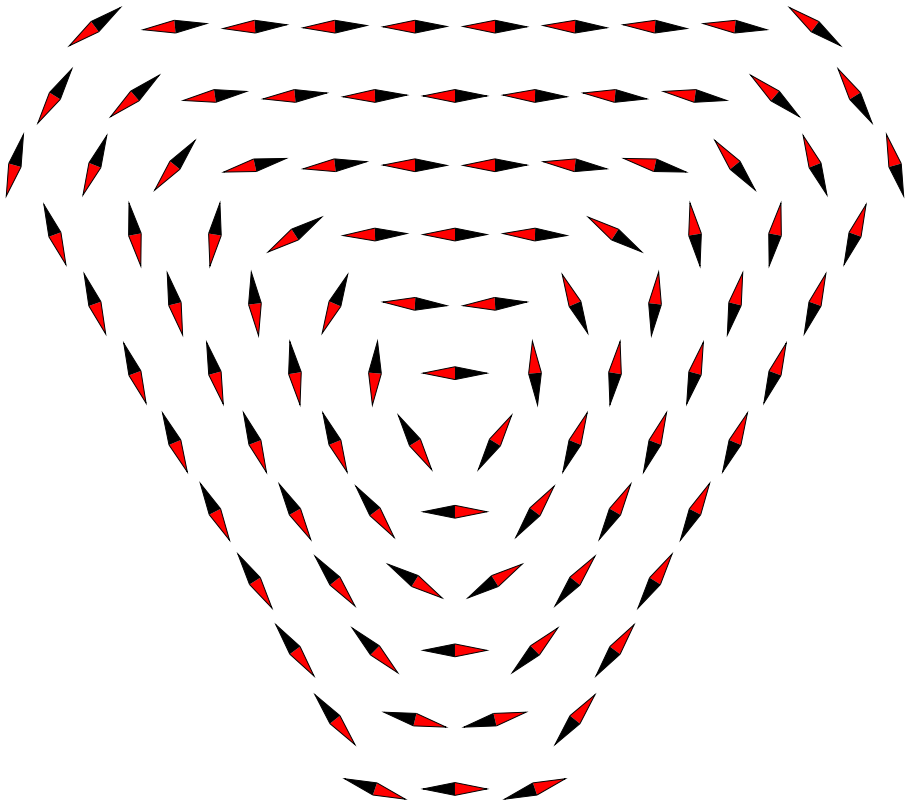
Dreiecks-Gitter (9,2)

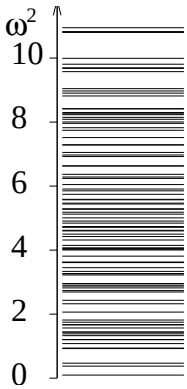


Anzahl Gitterpunkte: 96, Gefundene Energie-Niveaus: 1317, Läufe: 3000

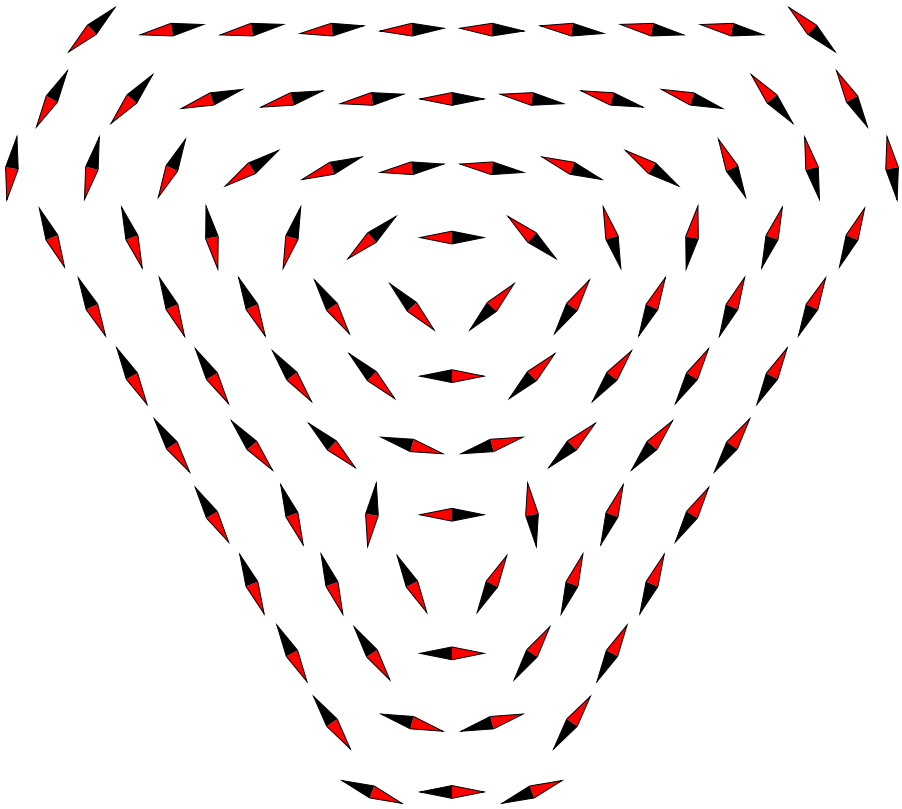


$E_1 = -246.17071$ (221 mal) $\omega_1^2 = 0.54121$

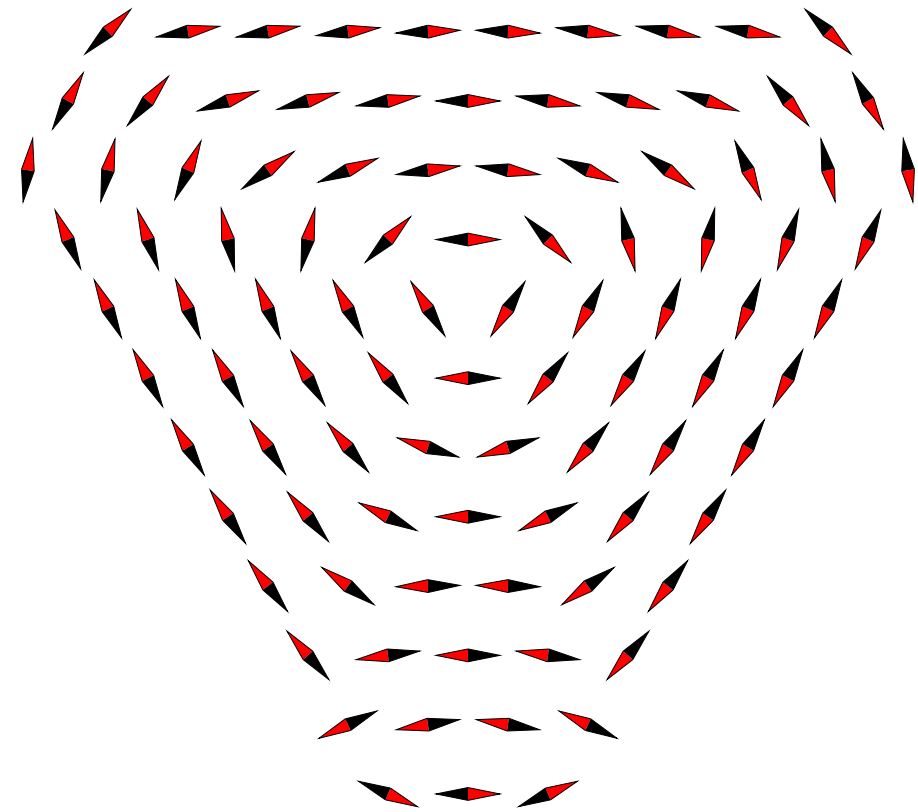


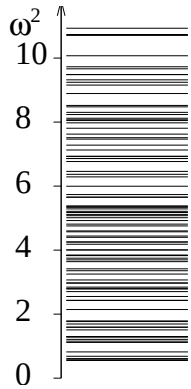


$E_2 = -245.23530$ (58 mal) $\omega_1^2 = 0.09630$

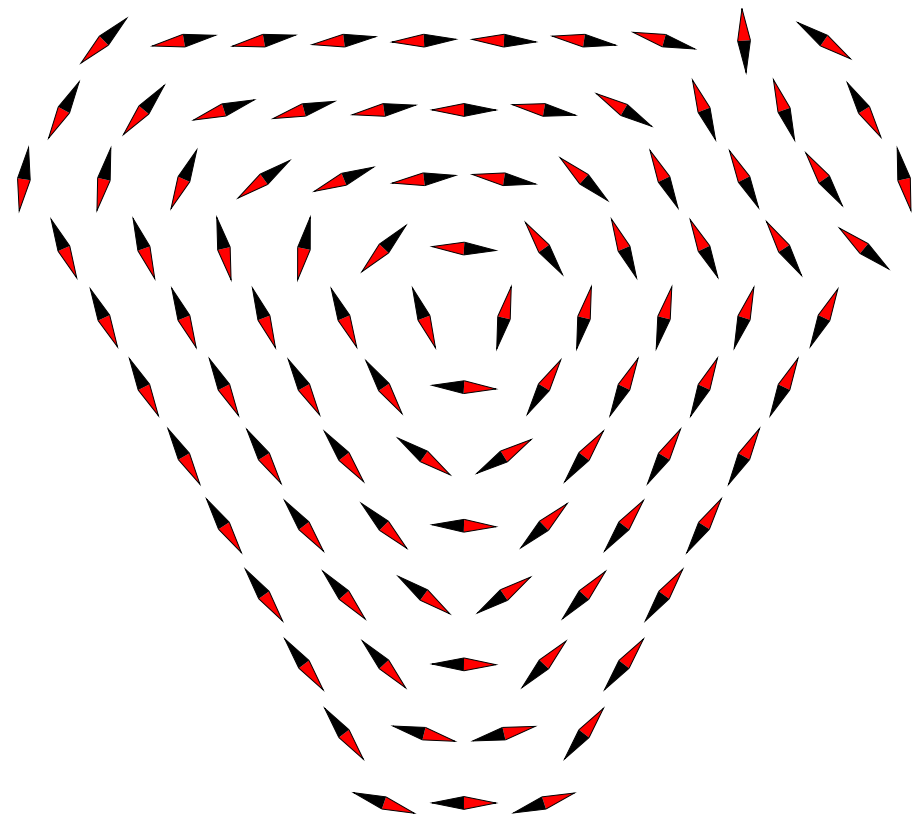


$E_3 = -244.17947$ (3 mal) $\omega_1^2 = 0.05694$

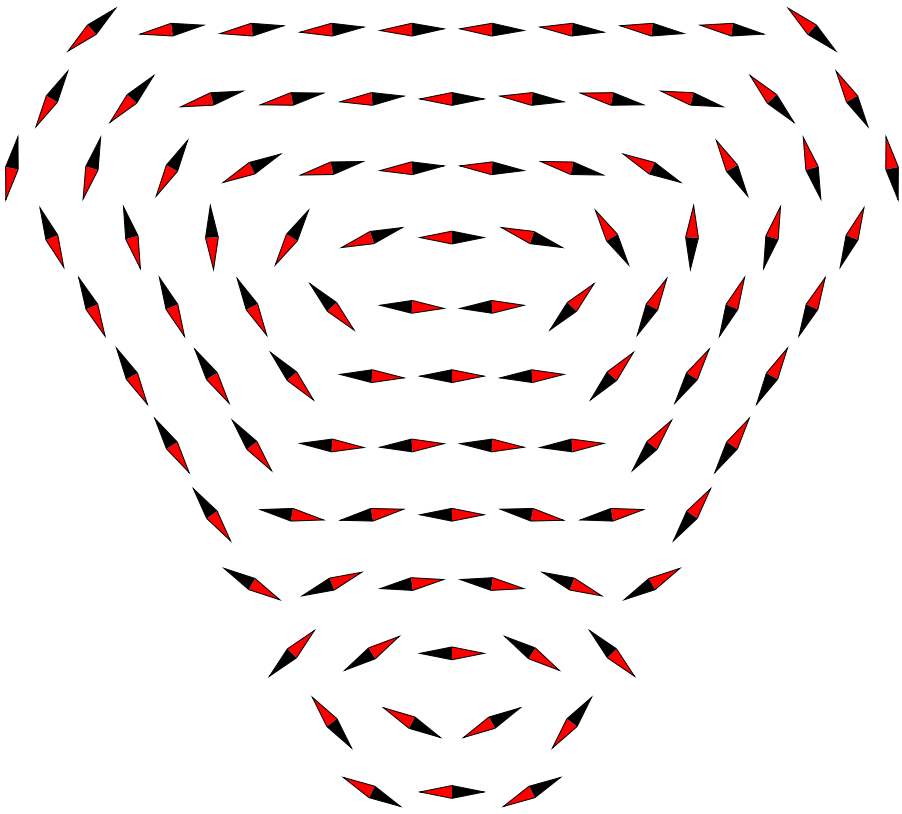


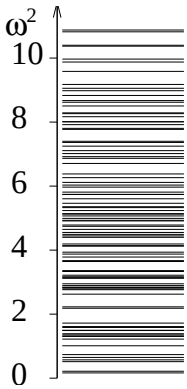


$E_4 = -243.76581$ (100 mal) $\omega_1^2 = 0.55162$

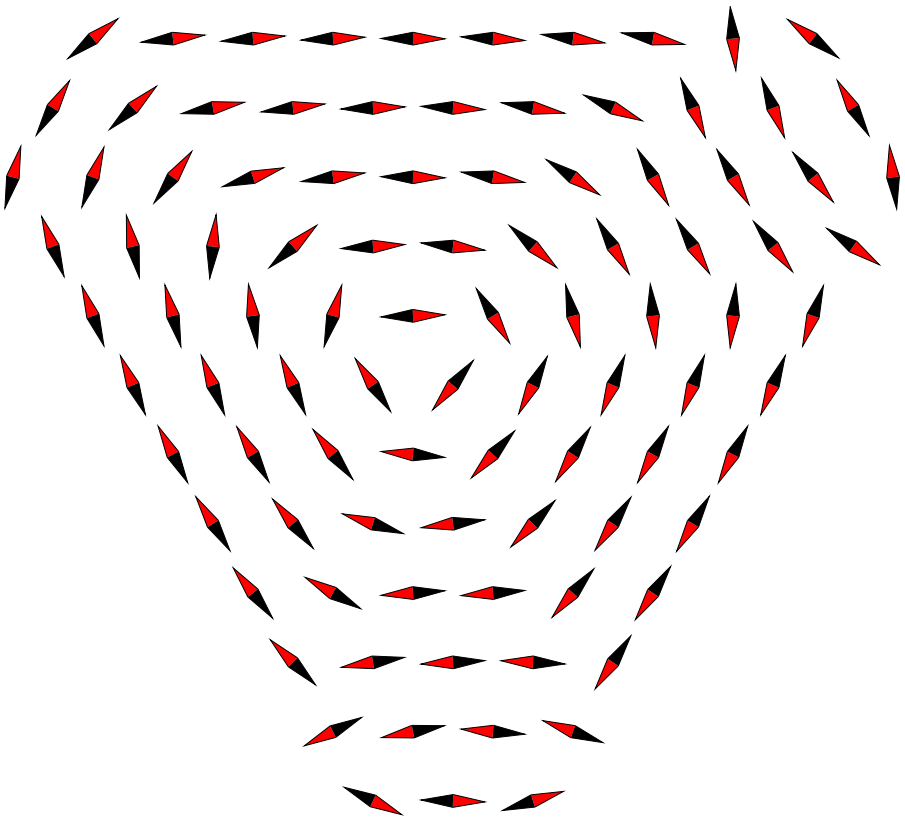


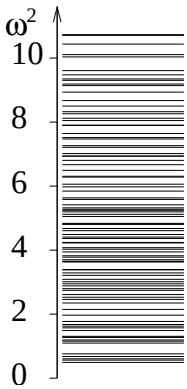
$E_5 = -243.45982$ (112 mal) $\omega_1^2 = 0.37547$



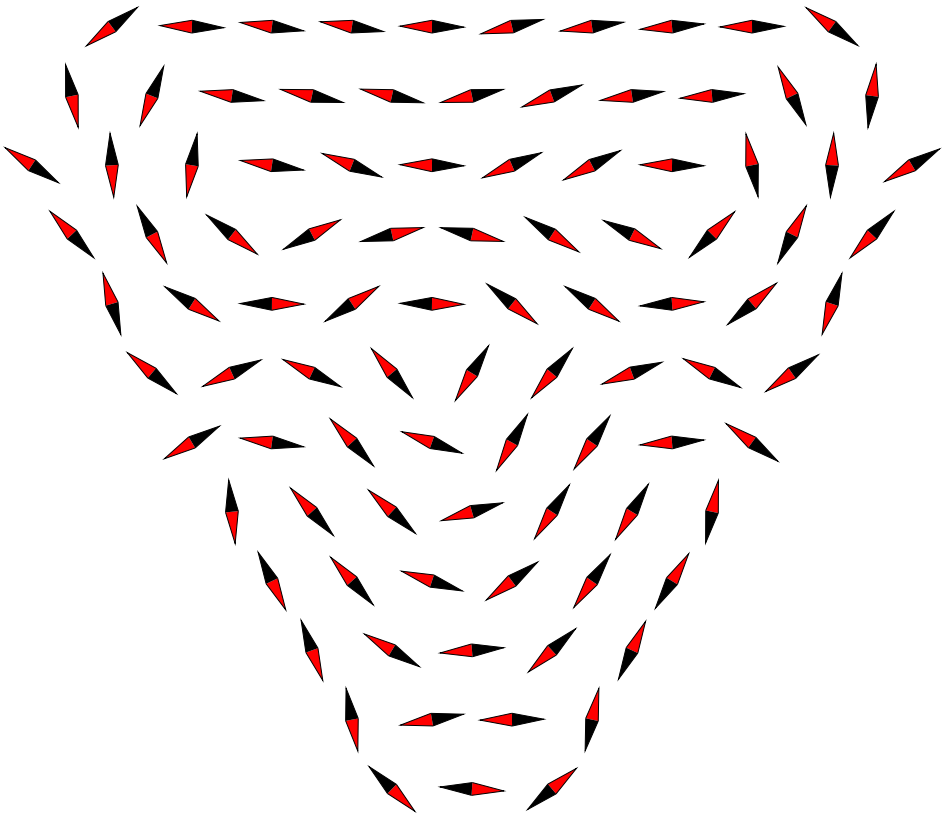


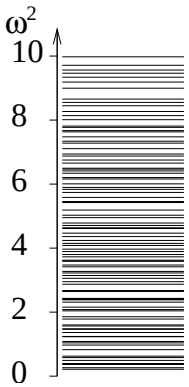
$E_6 = -242.51229$ (71 mal) $\omega_1^2 = 0.16278$



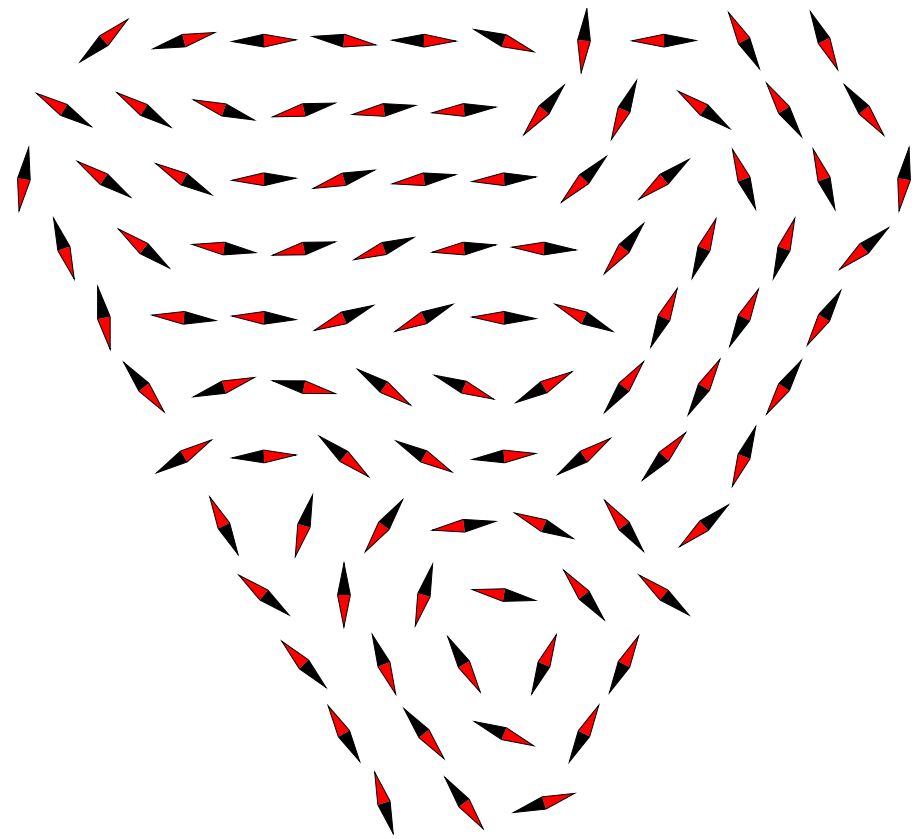


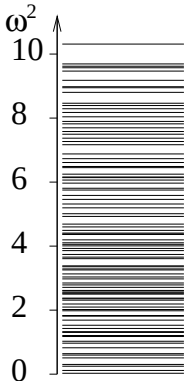
$E_{13} = -241.05660$ (54 mal) $\omega_1^2 = 0.49361$



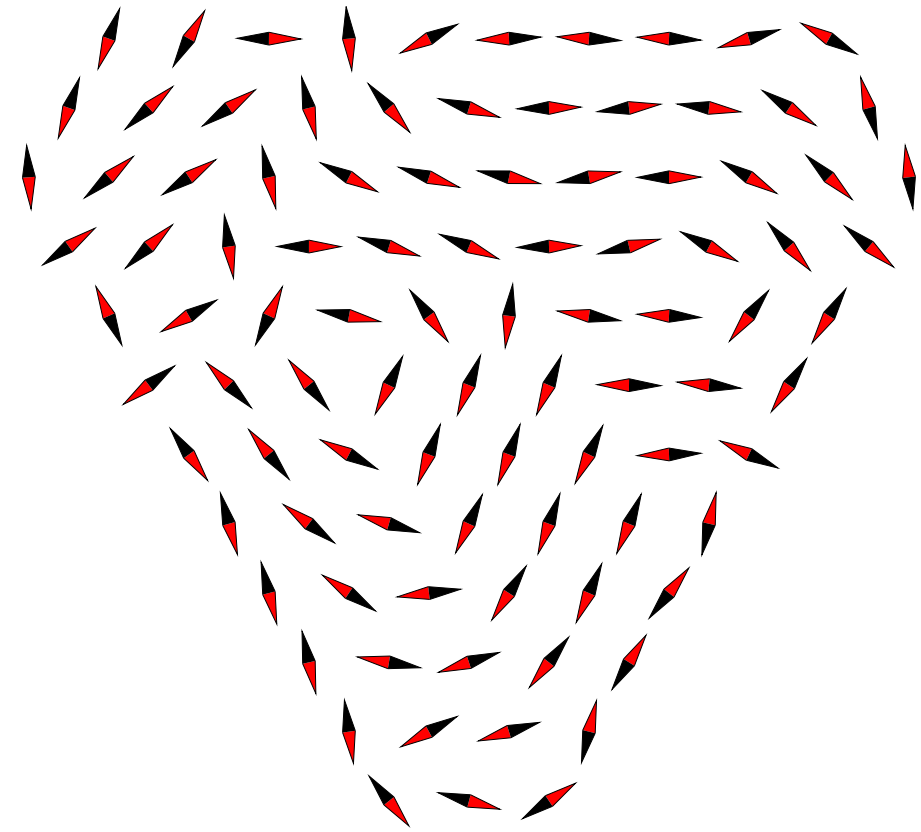


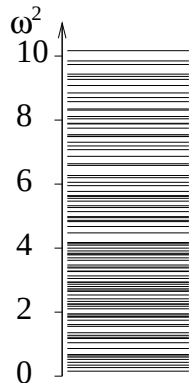
$E_{1315} = -216.42581$ (1 mal) $\omega_1^2 = 0.21650$





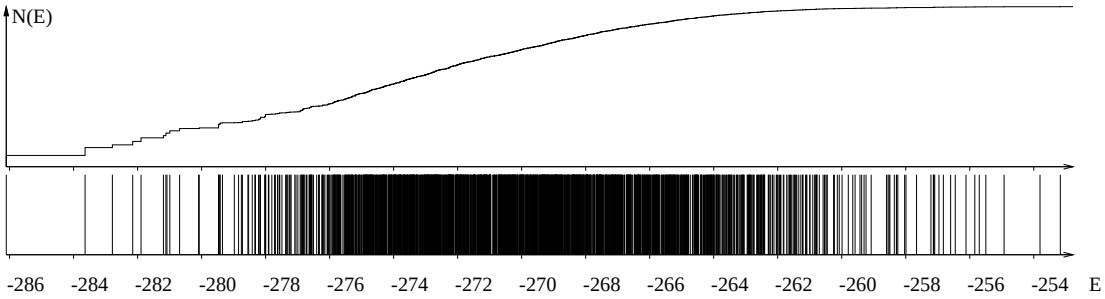
$E_{1316} = -216.29323$ (1 mal) $\omega_1^2 = 0.02967$



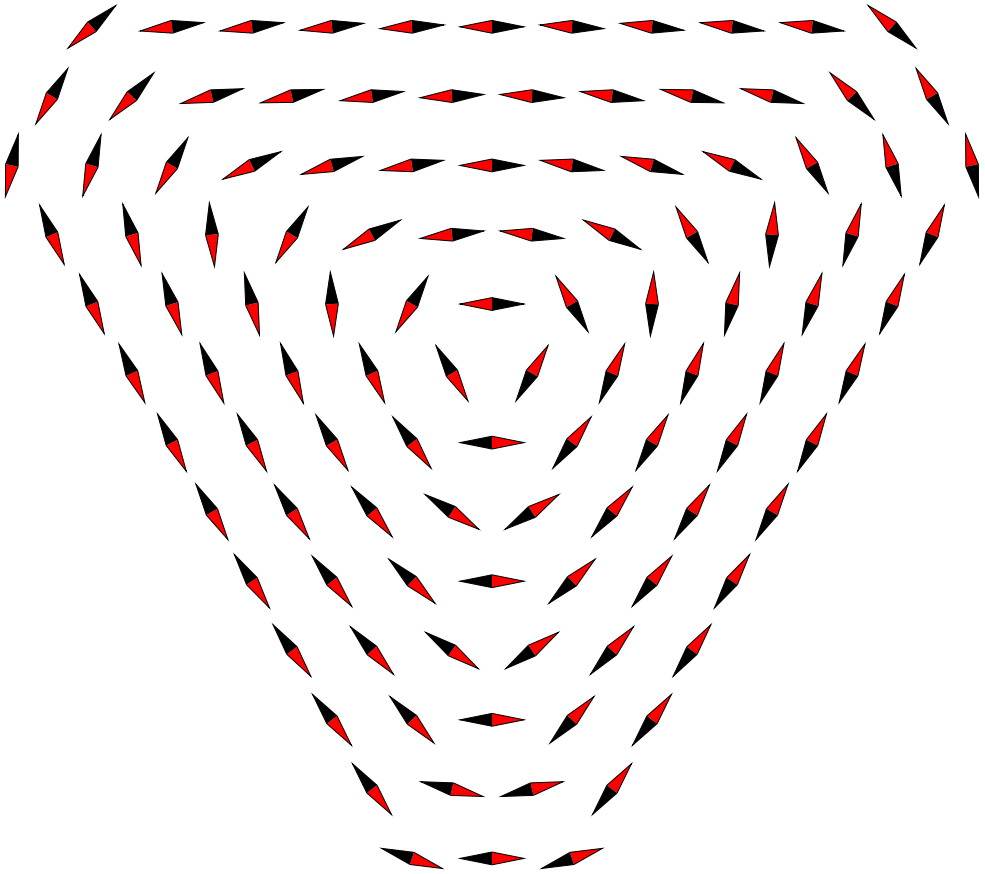


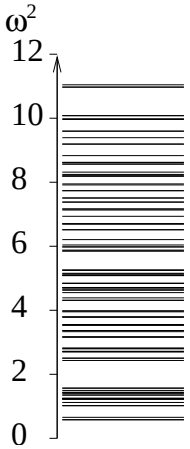
$E_{1317} = -215.70628$ (1 mal) $\omega_1^2 = 0.15649$

Dreiecks-Gitter (10,2)

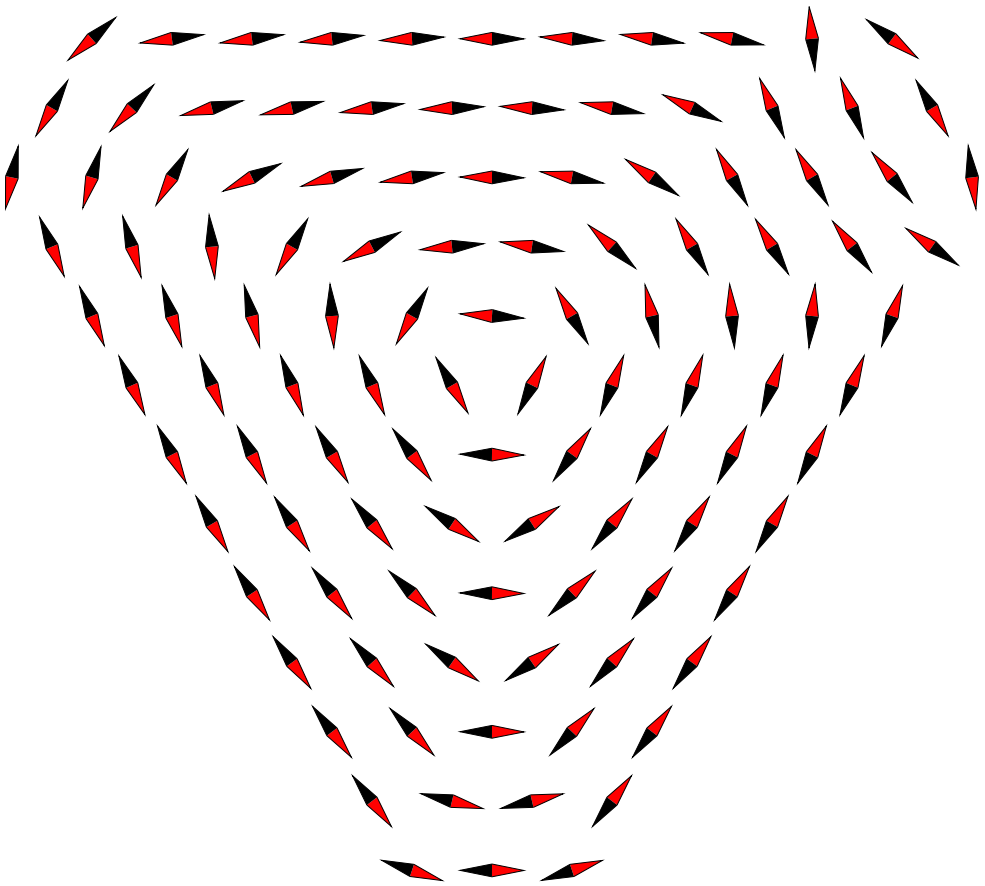


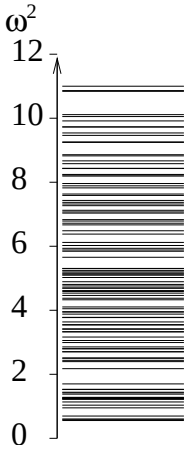
Anzahl Gitterpunkte: 111, Gefundene Energie-Niveaus: 1532, Läufe: 3000



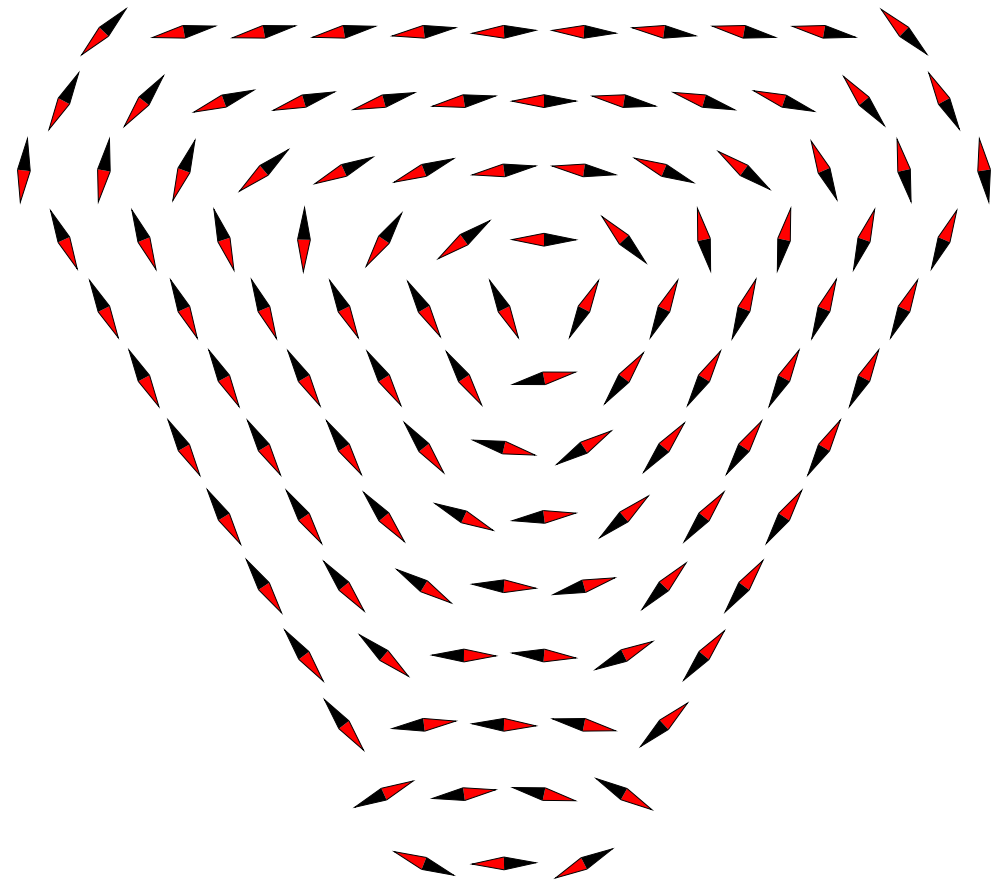


$E_1 = -286.10360$ (212 mal) $\omega_1^2 = 0.57829$

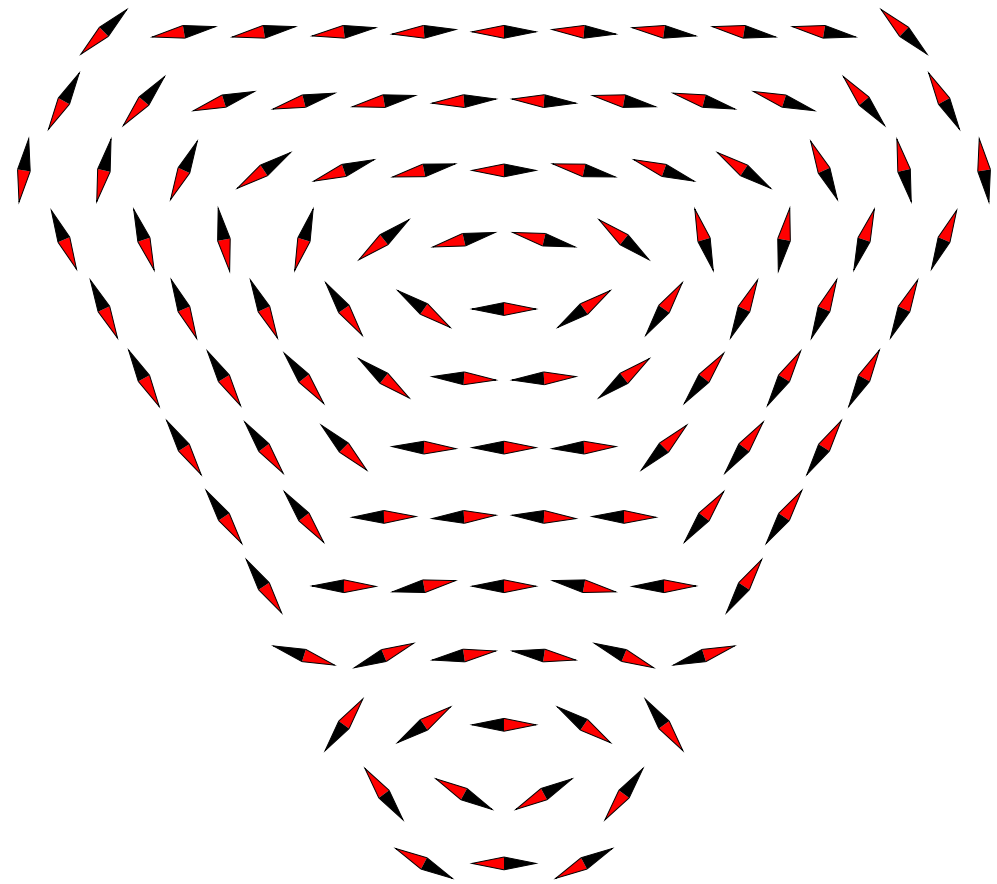


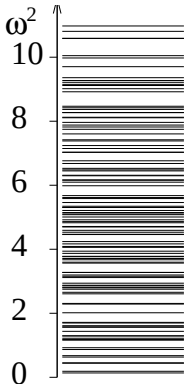


$E_2 = -283.64230$ (146 mal) $\omega_1^2 = 0.55675$

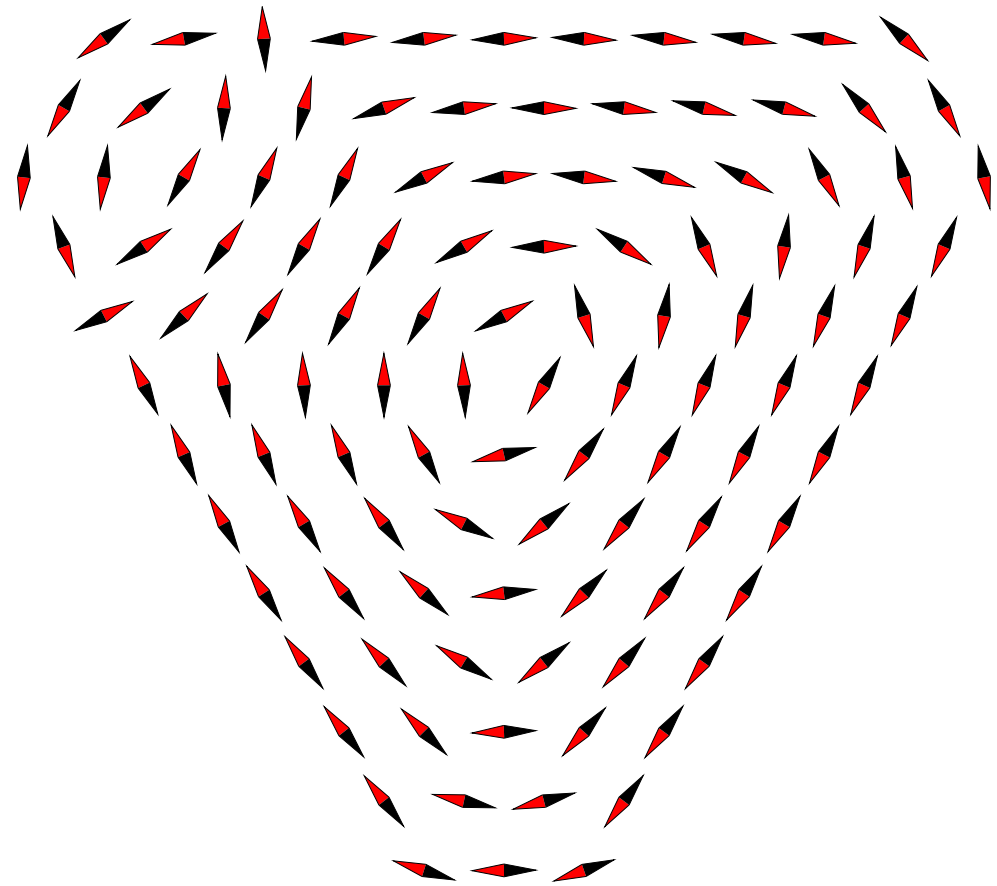


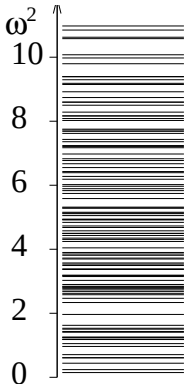
$E_3 = -282.78917$ (51 mal) $\omega_1^2 = 0.27864$



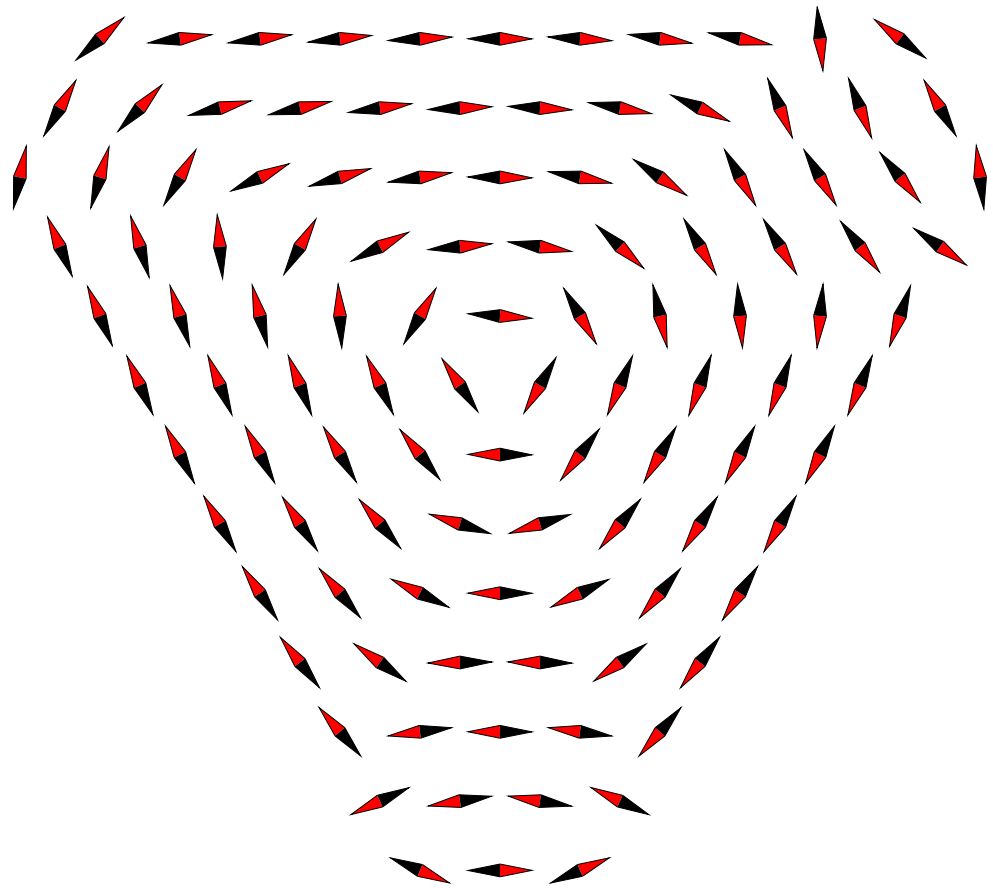


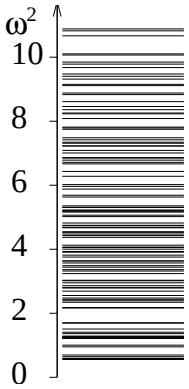
$E_4 = -282.15427$ (65 mal) $\omega_1^2 = 0.13418$



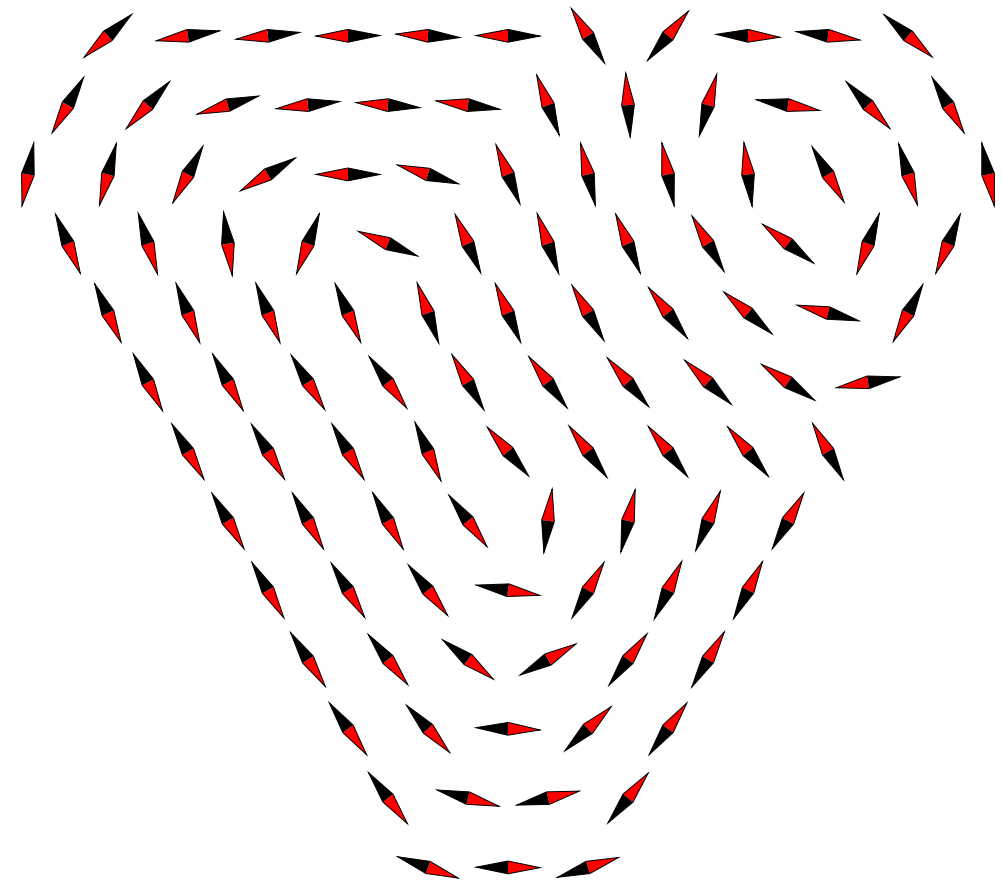


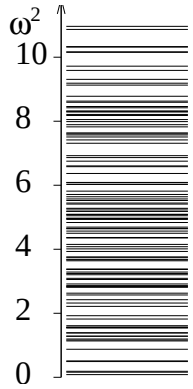
$E_5 = -281.89322$ (68 mal) $\omega_1^2 = 0.14916$



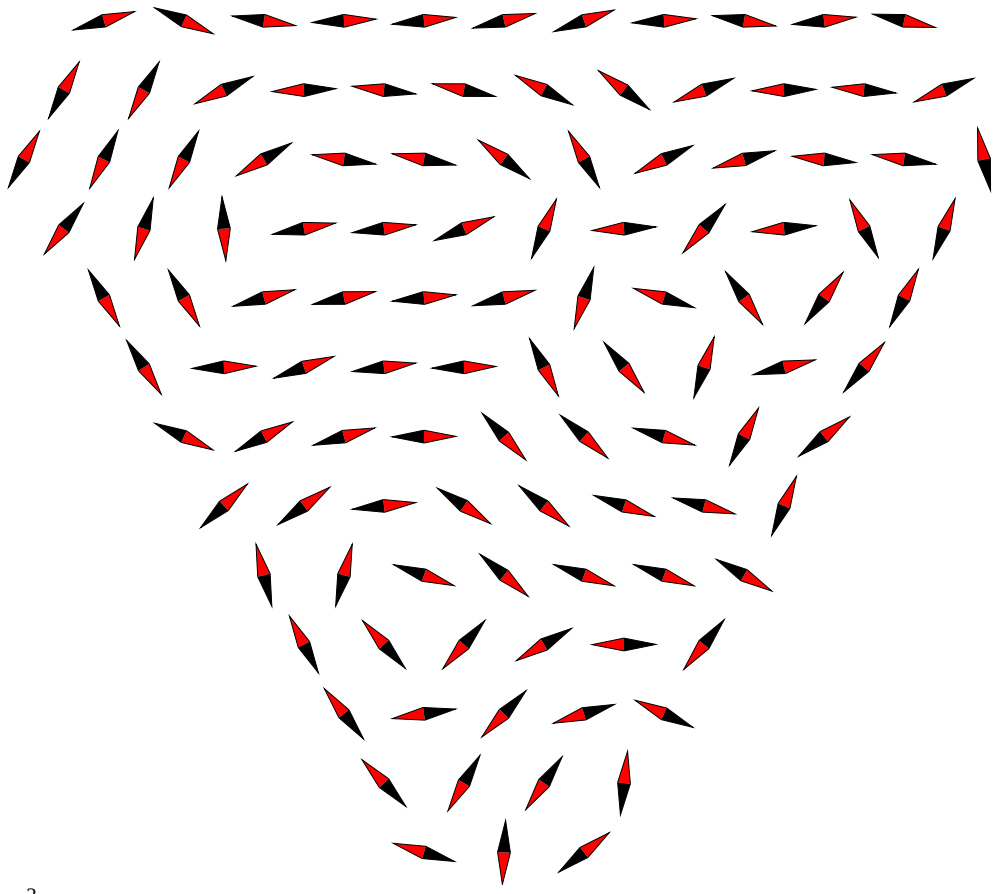


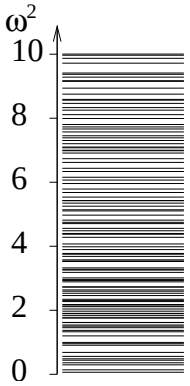
$E_6 = -281.19404$ (40 mal) $\omega_1^2 = 0.55754$



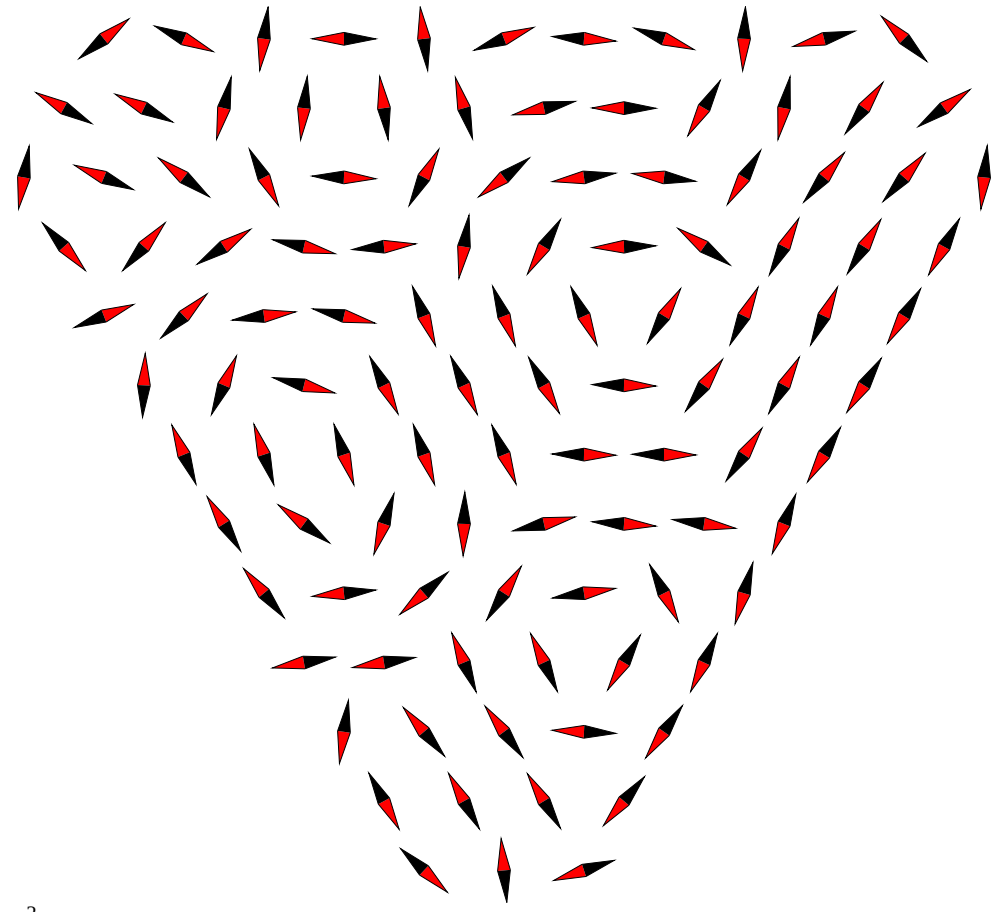


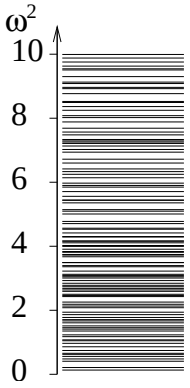
$E_7 = -281.11694$ (47 mal) $\omega_1^2 = 0.08307$



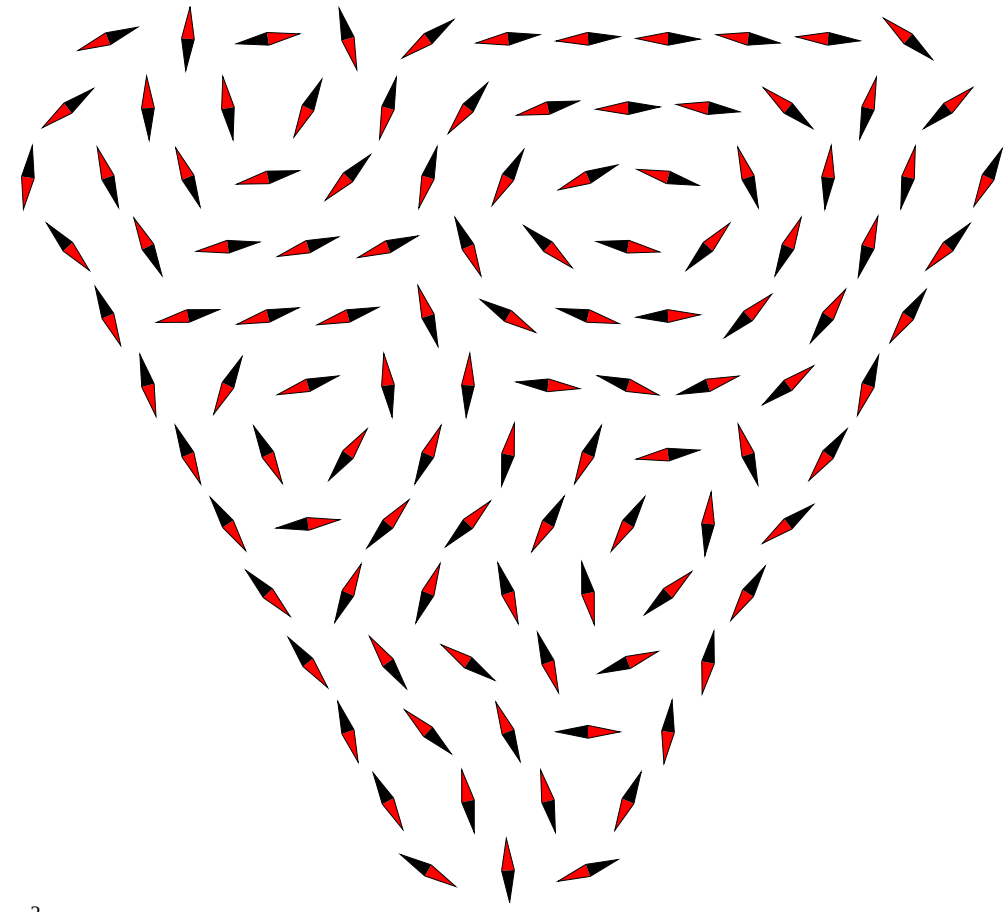


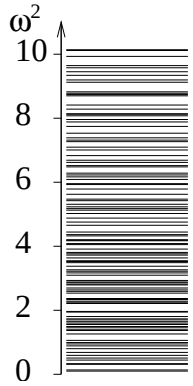
$E_{1530} = -254.92882$ (1 mal) $\omega_1^2 = 0.06464$





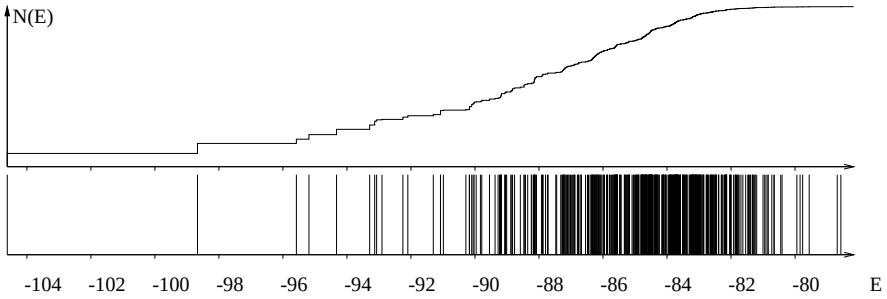
$E_{1531} = -253.80583$ (1 mal) $\omega_1^2 = 0.13096$



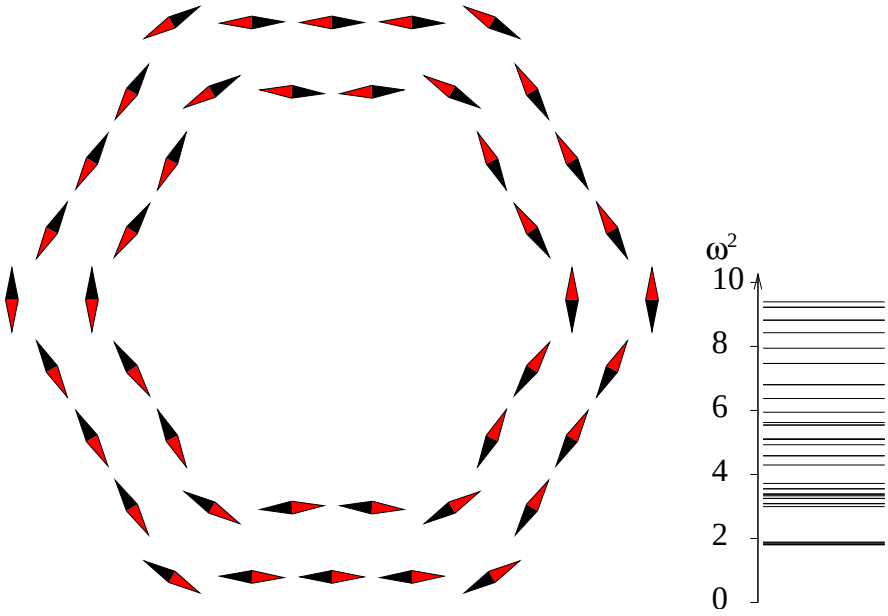


$E_{1532} = -253.16991$ (1 mal) $\omega_1^2 = 0.09920$

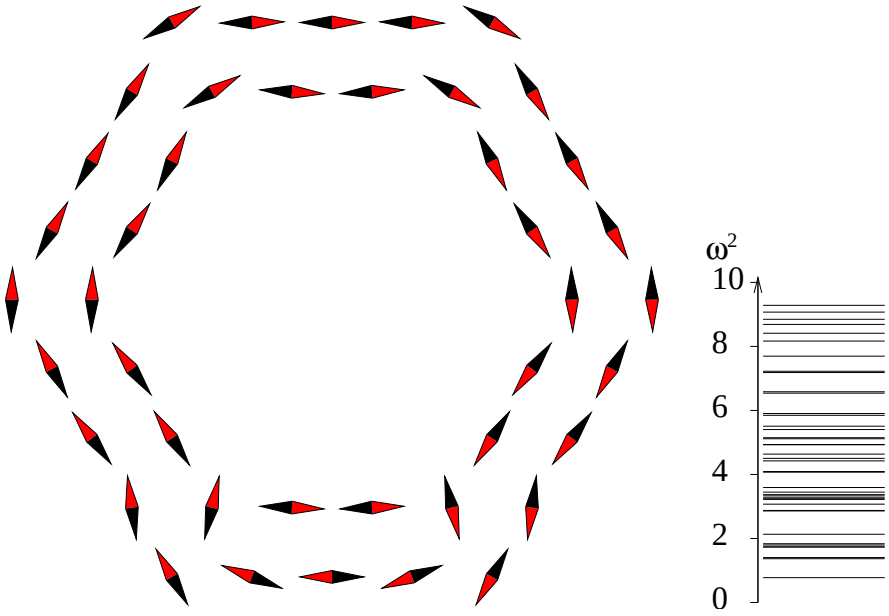
Dreicks-Gitter in Ring-Form (4,2)



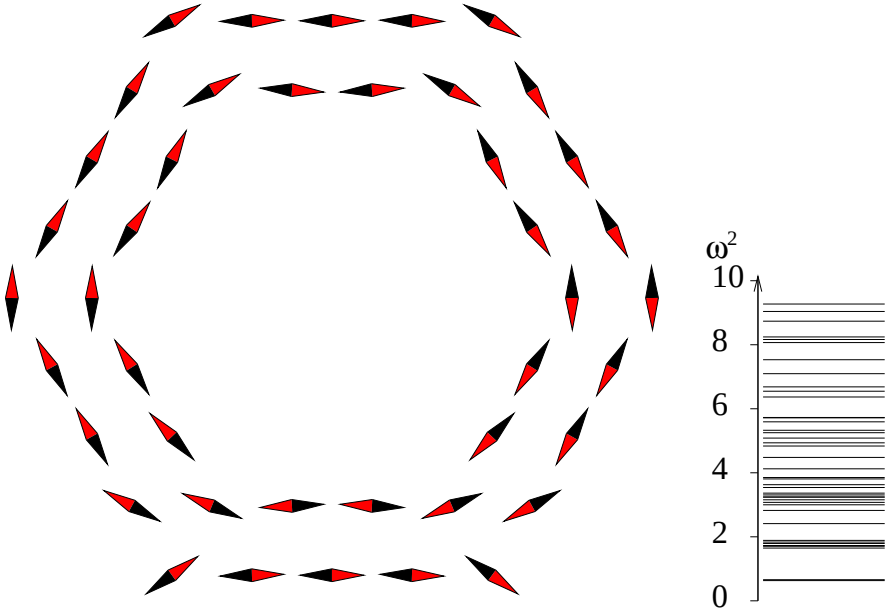
Anzahl Gitterpunkte: 42, Gefundene Energie-Niveaus: 497, Läufe: 3000



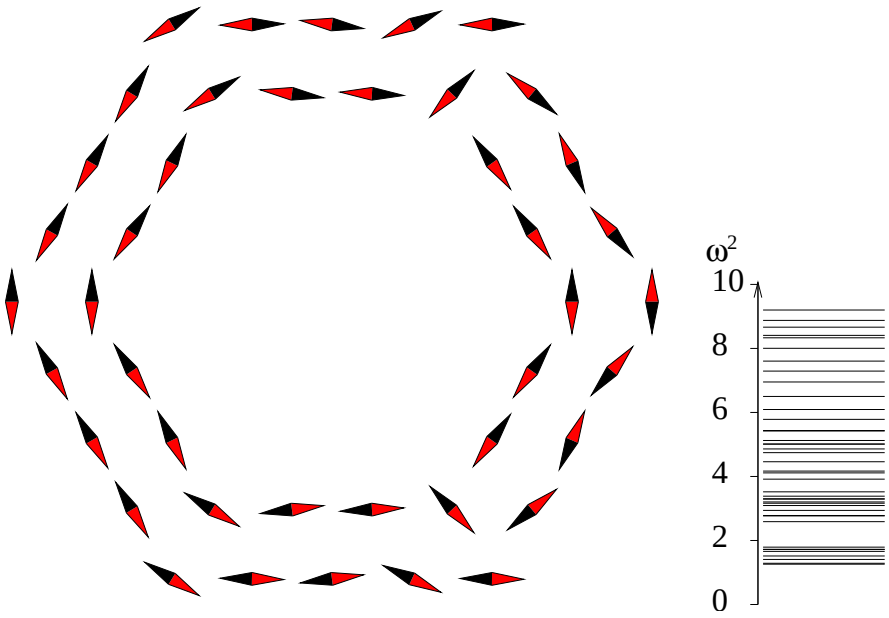
$E_1 = -104.61363$ (249 mal) $\omega_1^2 = 1.80045$



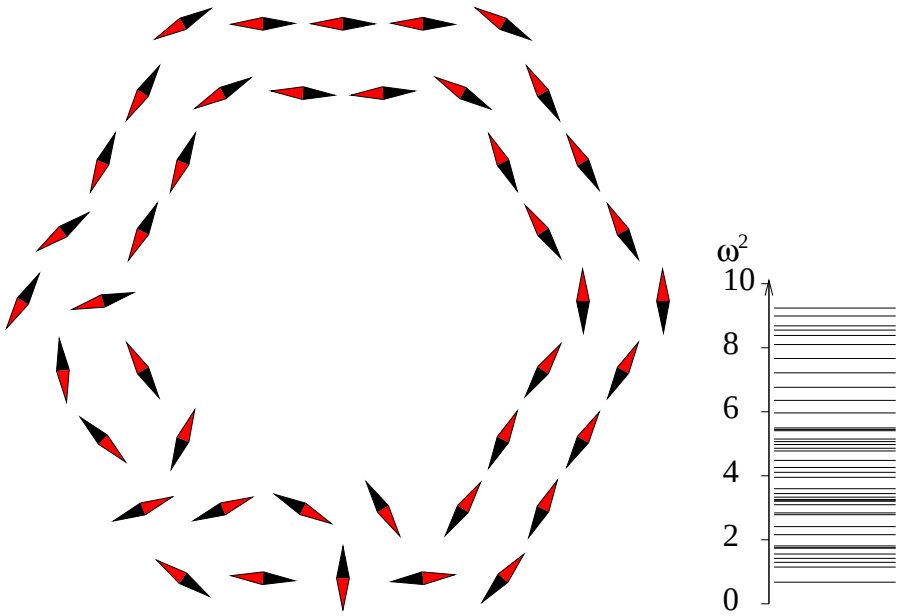
$E_2 = -98.67185$ (187 mal) $\omega_1^2 = 0.77616$



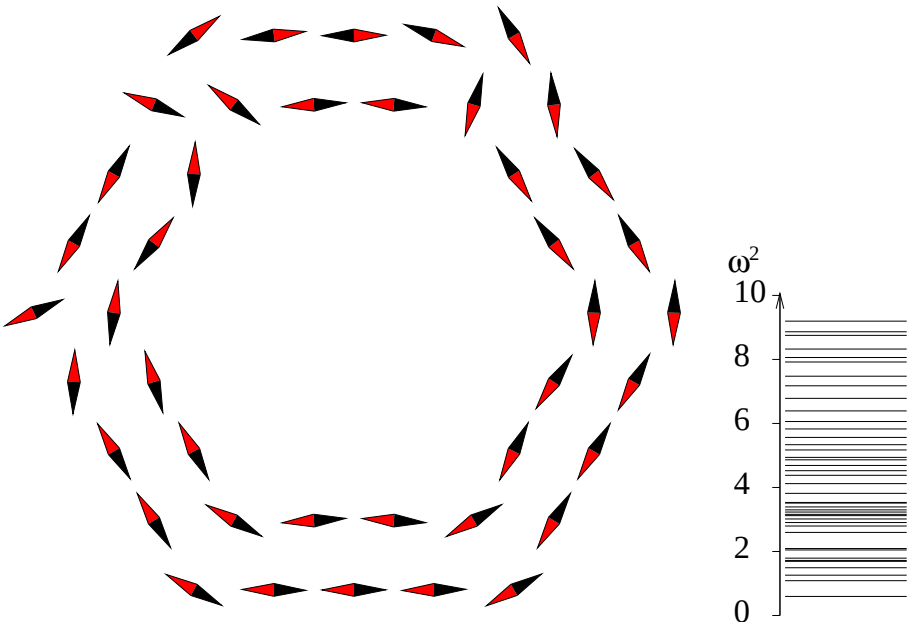
$E_3 = -95.58009$ (80 mal) $\omega_1^2 = 0.63321$



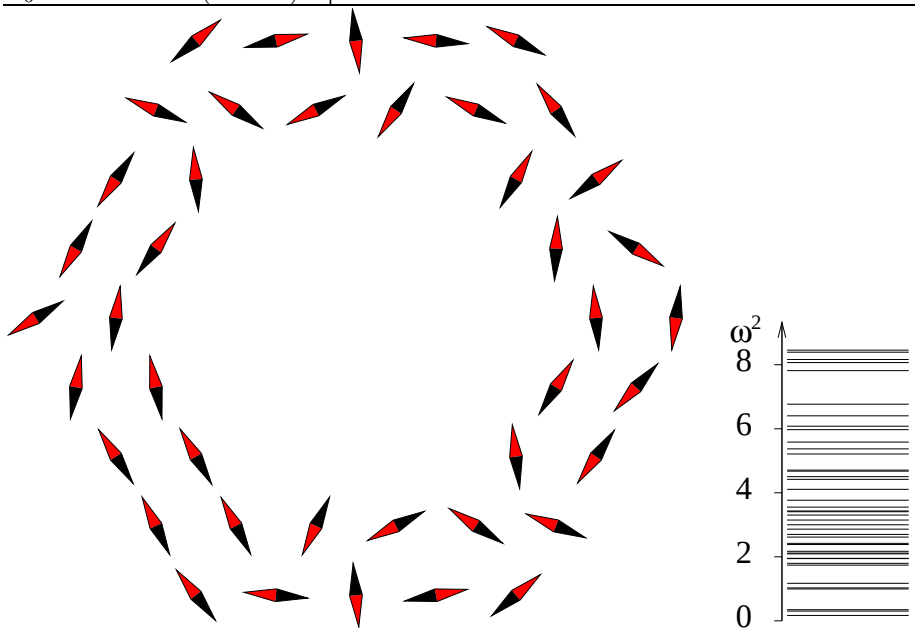
$E_4 = -95.18943$ (85 mal) $\omega_1^2 = 1.26197$



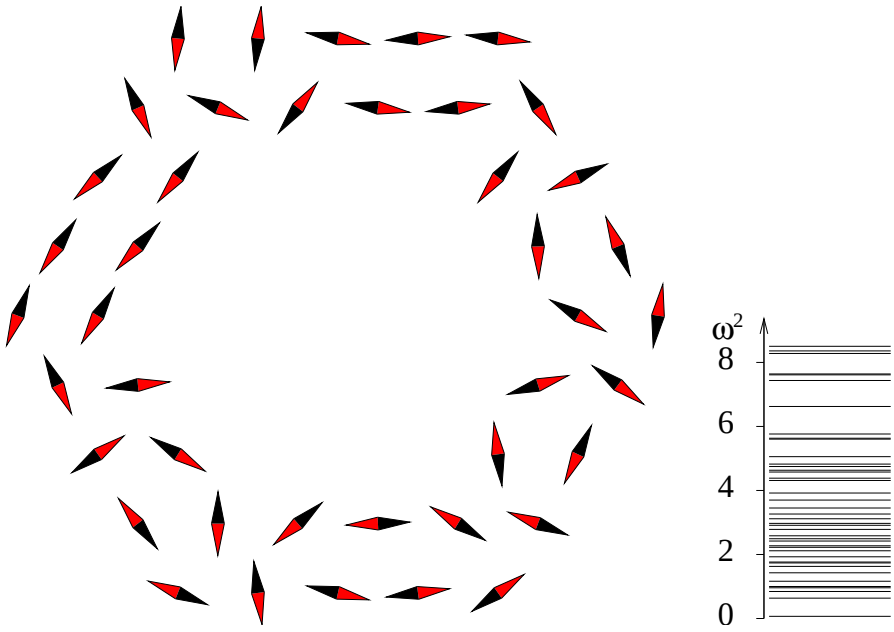
$E_5 = -94.32513$ (99 mal) $\omega_1^2 = 0.67609$



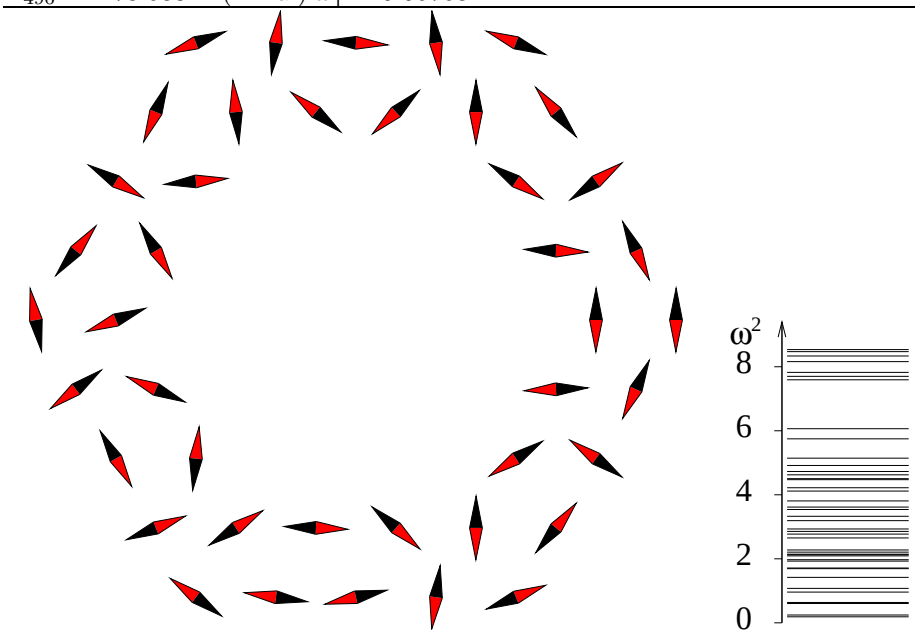
$E_6 = -93.29066$ (81 mal) $\omega_1^2 = 0.59677$



$E_{495} = -79.55986$ (1 mal) $\omega_1^2 = 0.16917$

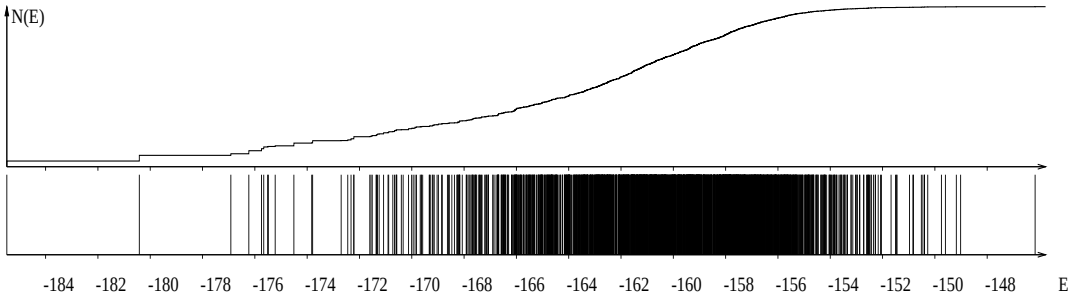


$E_{496} = -78.68342$ (1 mal) $\omega_1^2 = 0.06768$

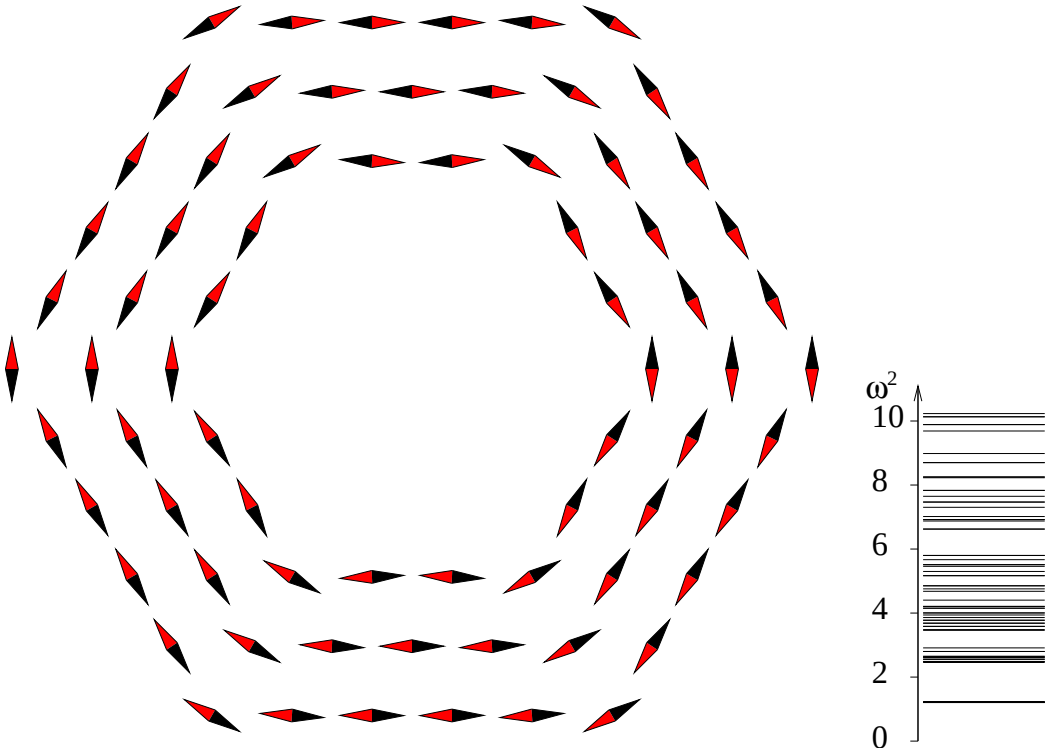


$E_{497} = -78.56795$ (1 mal) $\omega_1^2 = 0.18657$

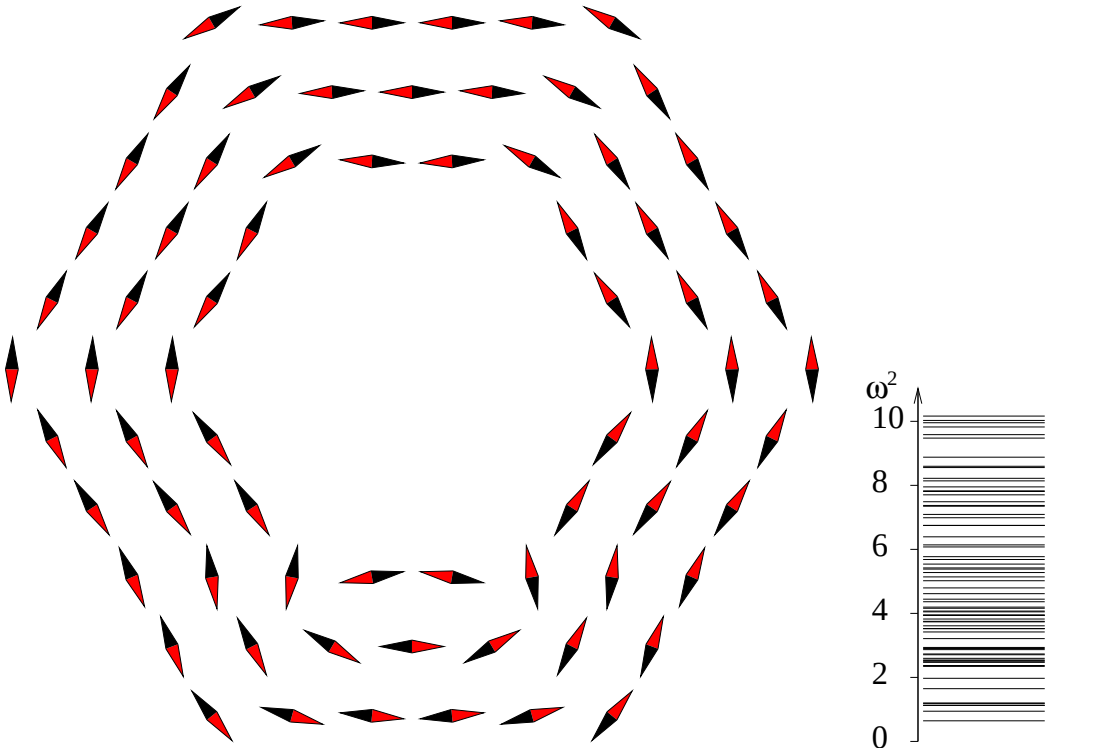
Dreicks-Gitter in Ring-Form (5,2)



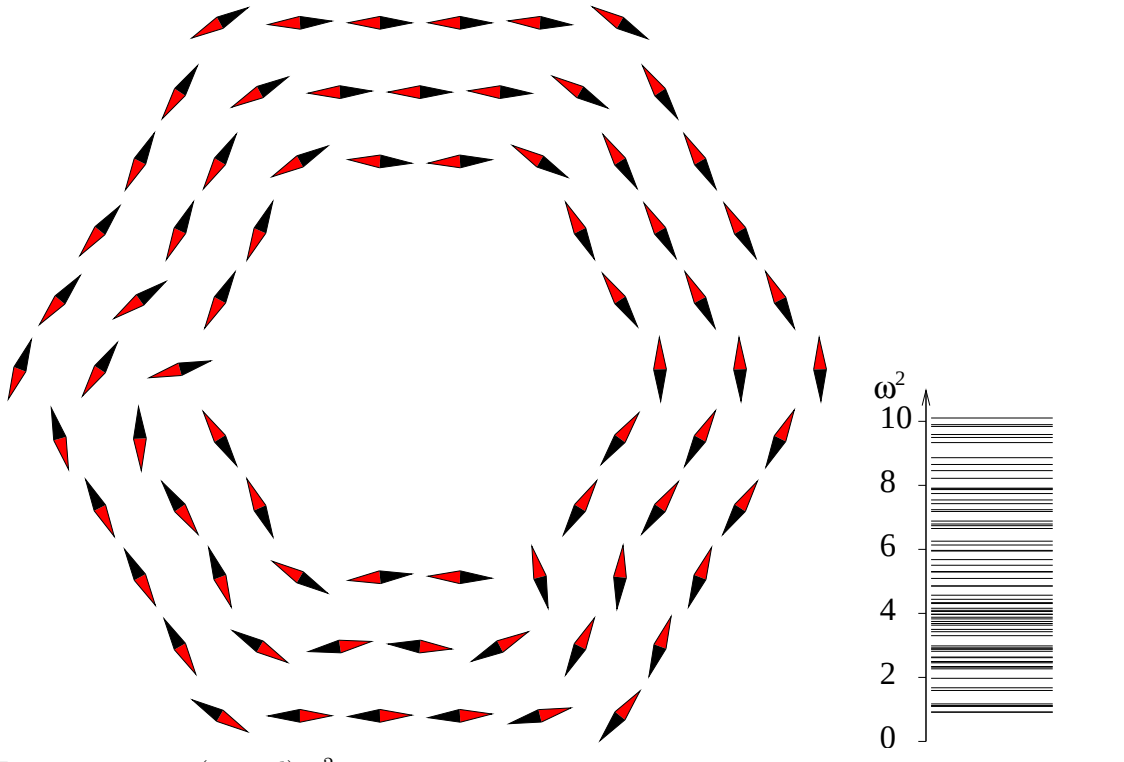
Anzahl Gitterpunkte: 72, Gefundene Energie-Niveaus: 1733, Läufe: 3000



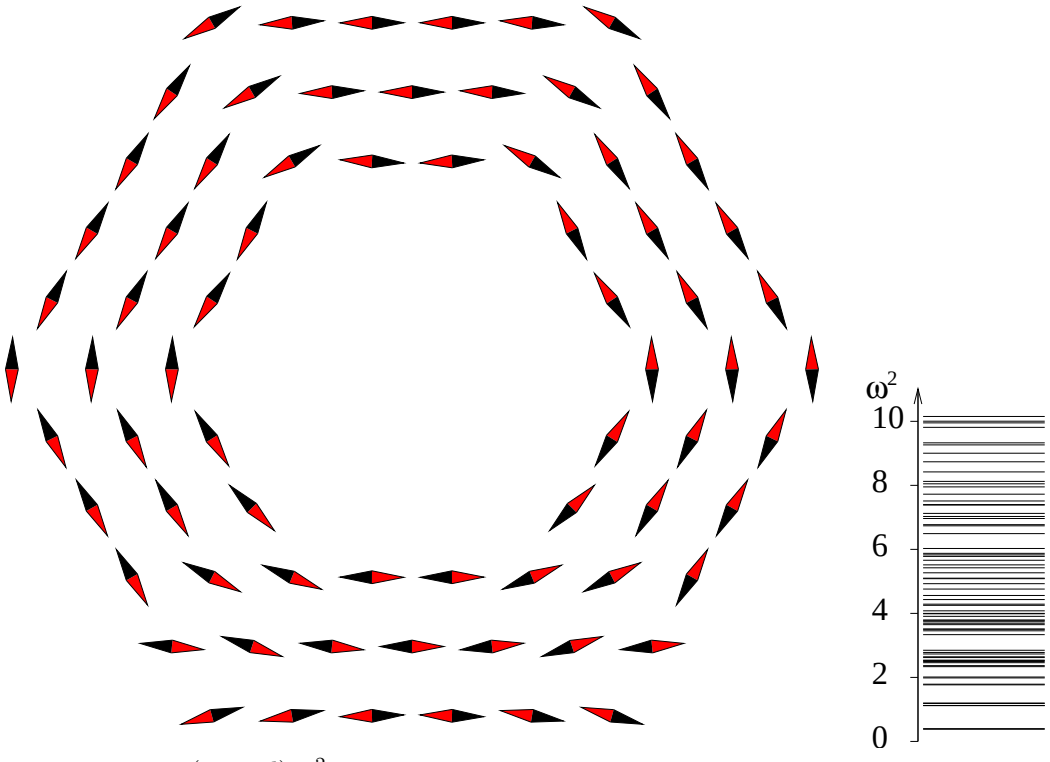
$E_1 = -185.48141$ (107 mal) $\omega_1^2 = 1.20254$



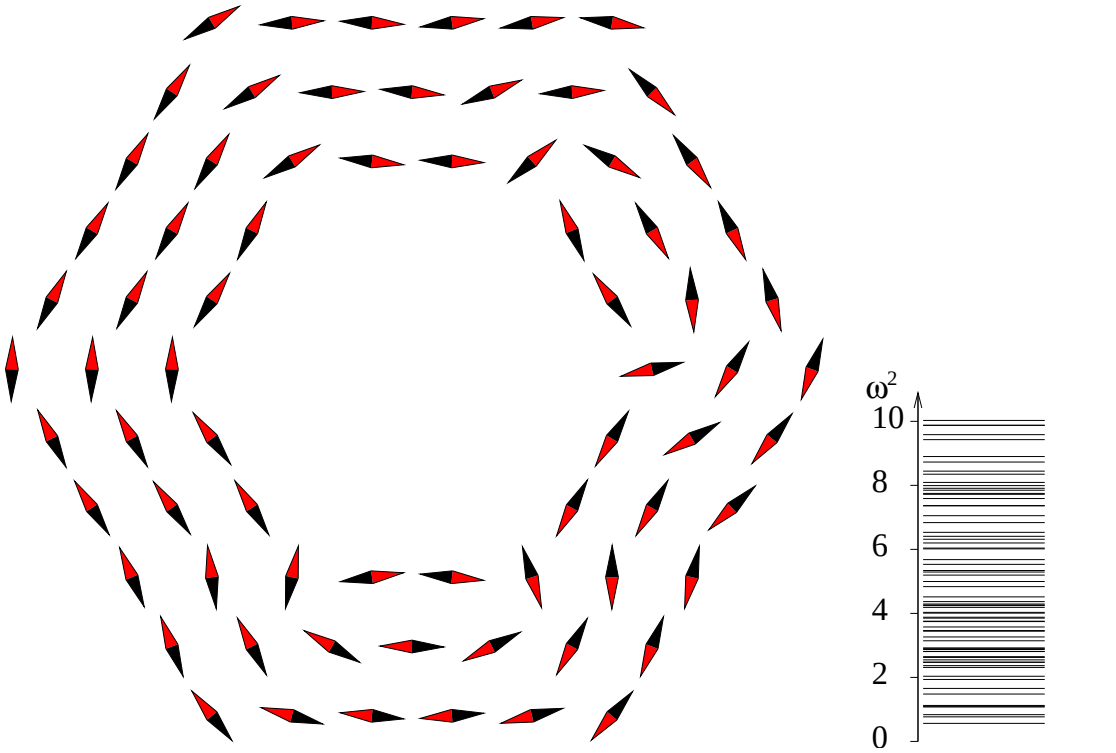
$E_2 = -180.41691$ (106 mal) $\omega_1^2 = 0.64366$



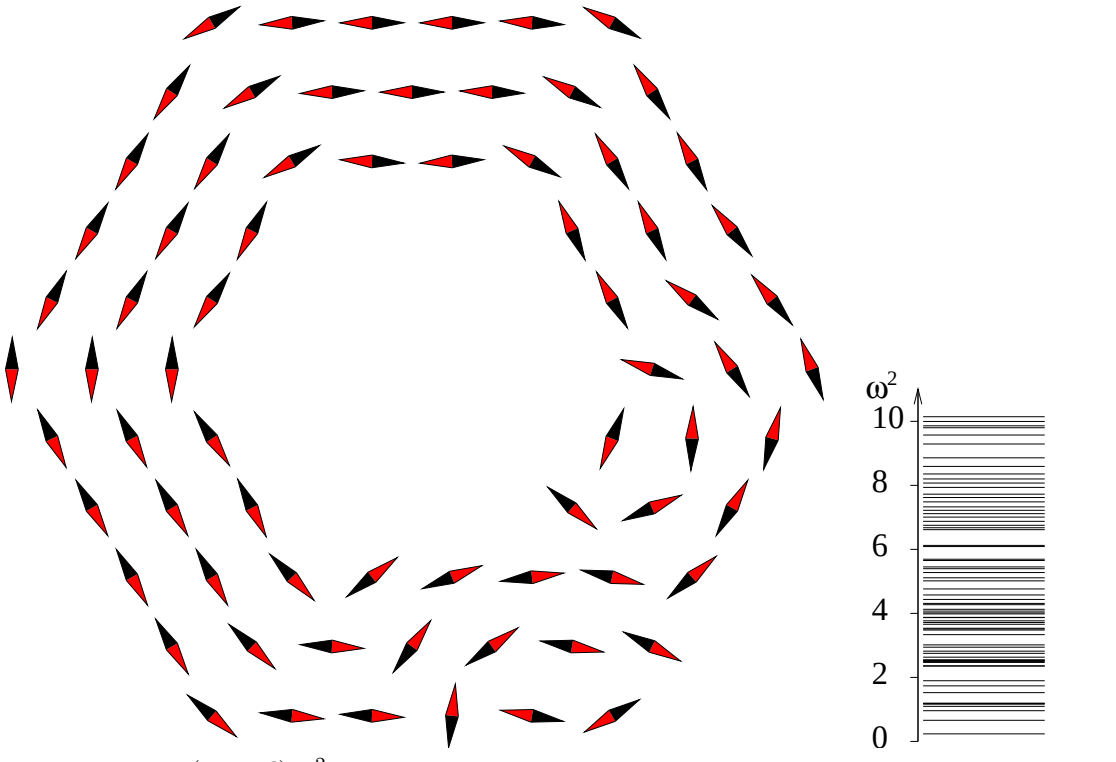
$E_3 = -176.91581$ (30 mal) $\omega_1^2 = 0.91125$



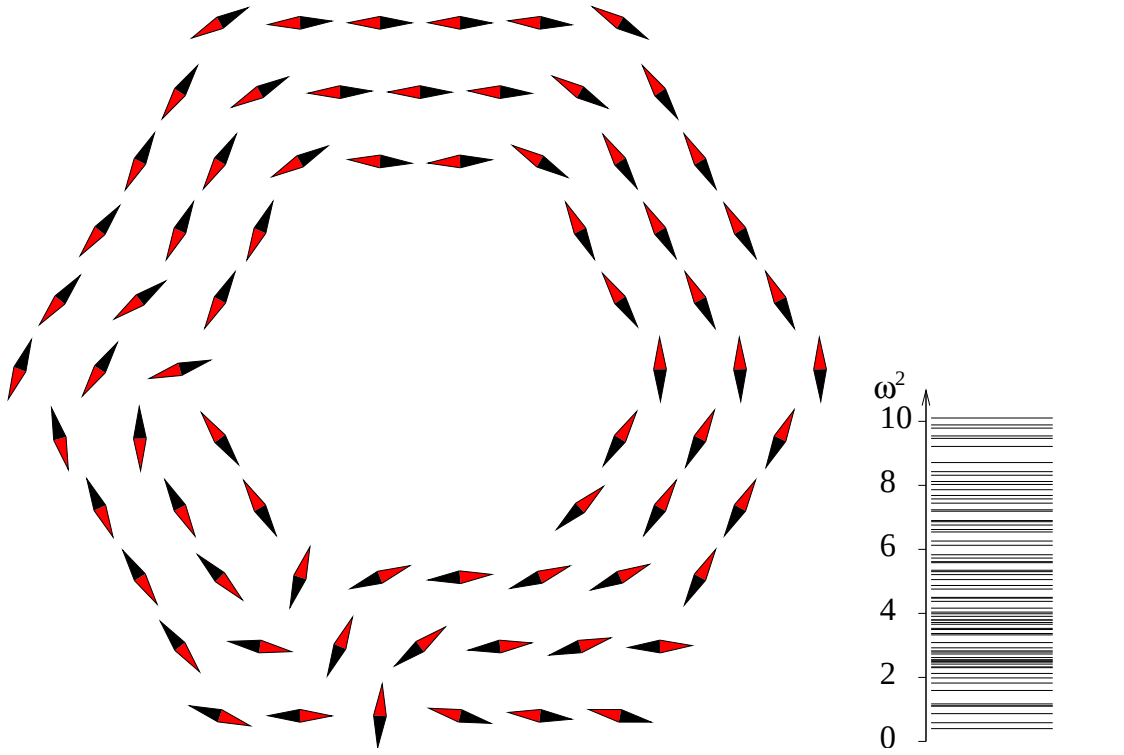
$E_4 = -176.23013$ (57 mal) $\omega_1^2 = 0.38100$



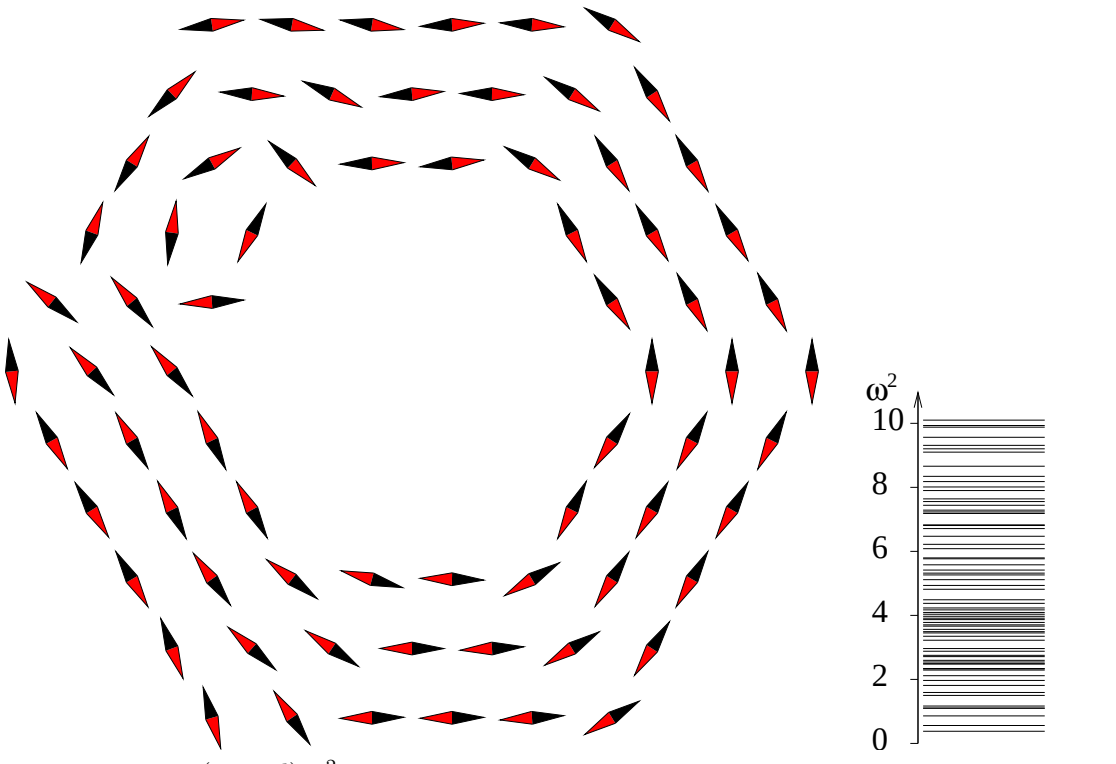
$E_5 = -175.74401$ (38 mal) $\omega_1^2 = 0.56583$



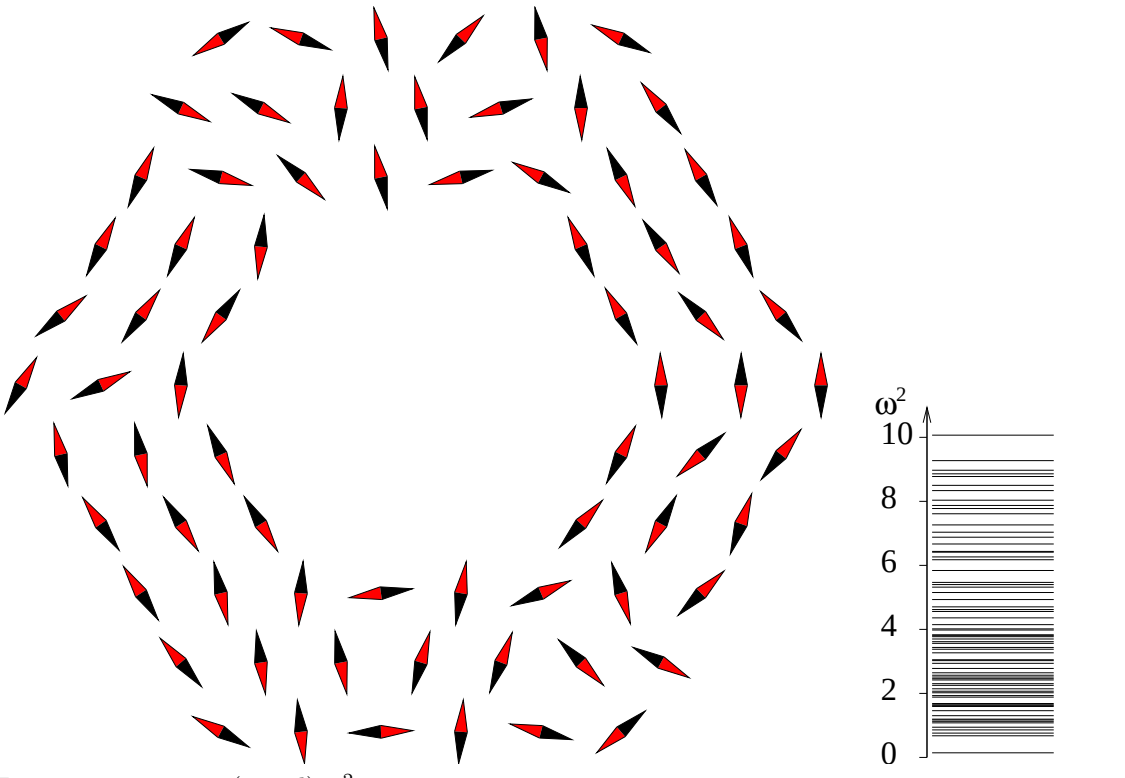
$E_6 = -175.65985$ (33 mal) $\omega_1^2 = 0.23729$



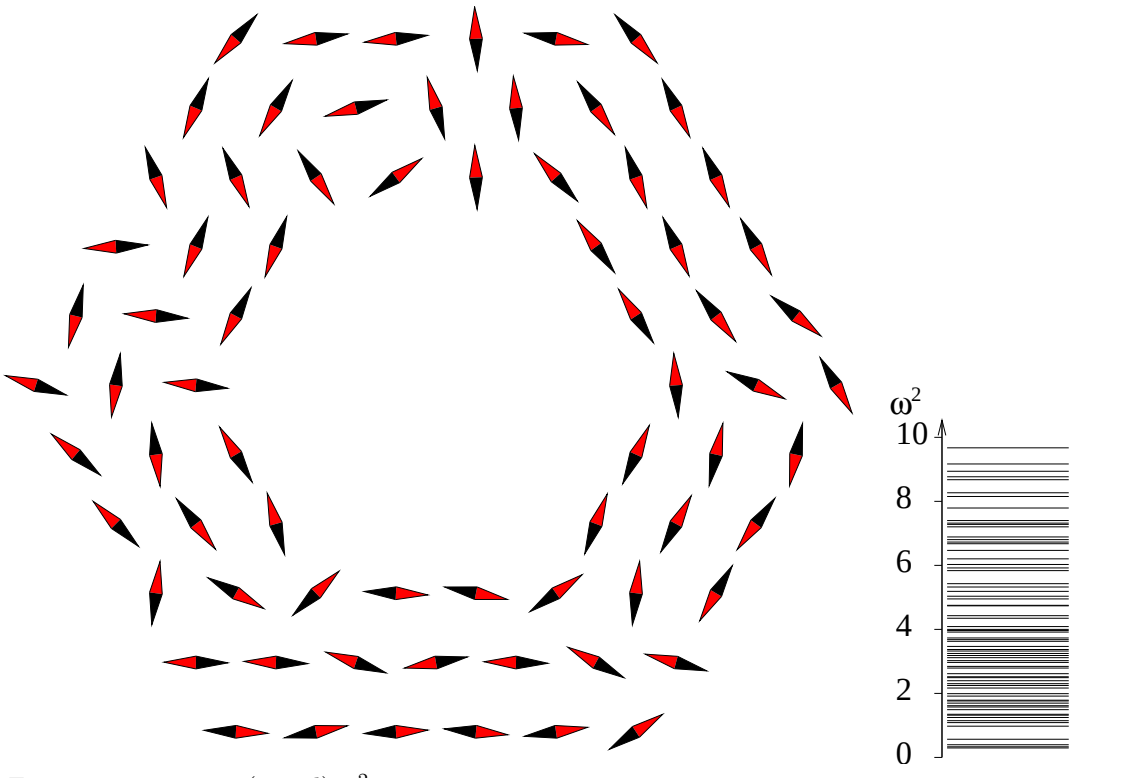
$E_{10} = -174.50578$ (50 mal) $\omega_1^2 = 0.40044$



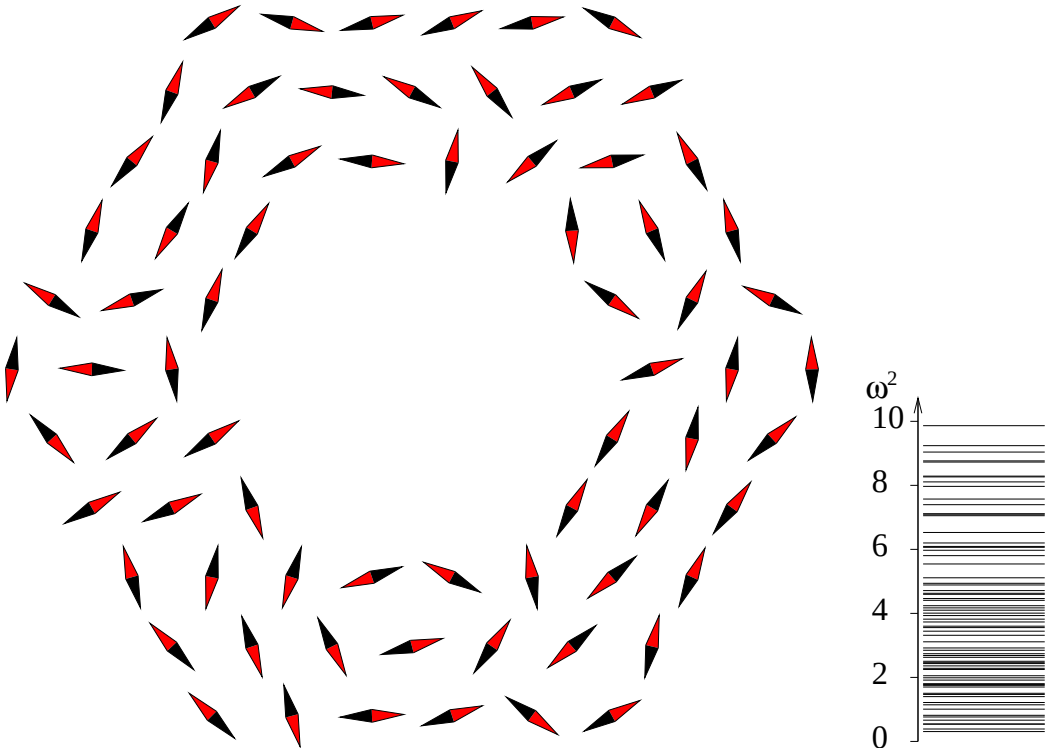
$E_{12} = -173.78893$ (39 mal) $\omega_1^2 = 0.38115$



$E_{1731} = -149.17921$ (1 mal) $\omega_1^2 = 0.14518$

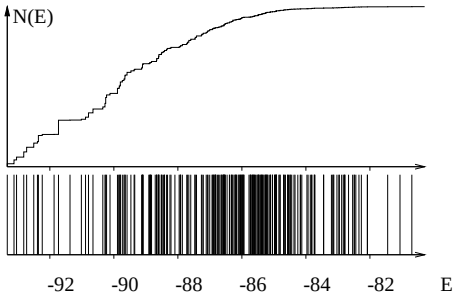


$E_{1732} = -149.01445$ (1 mal) $\omega_1^2 = 0.29651$

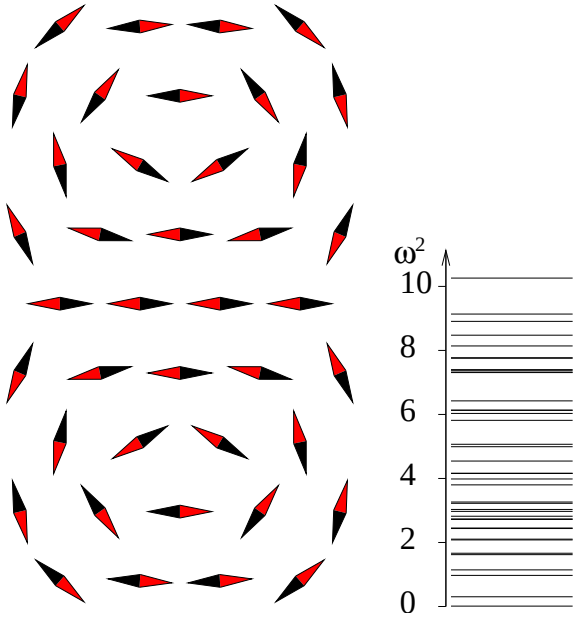


$E_{1733} = -146.16686$ (1 mal) $\omega_1^2 = 0.30903$

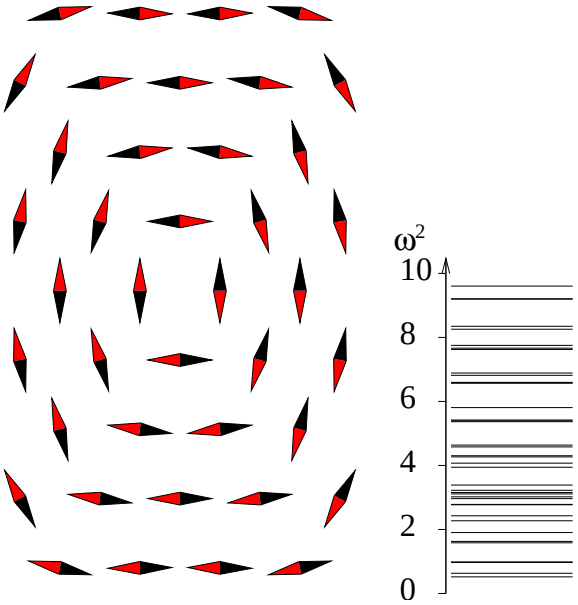
Dreiecks-Gitter mit Rechteckberandung (4,4)



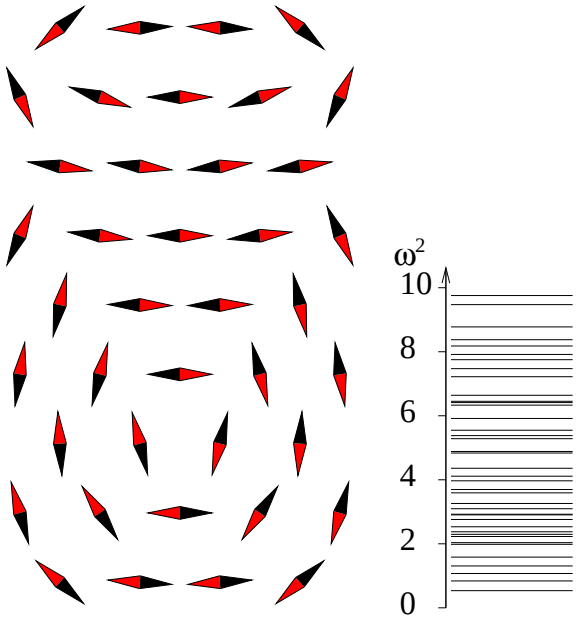
Anzahl Gitterpunkte: 40, Gefundene Energie-Niveaus: 229, Läufe: 3000



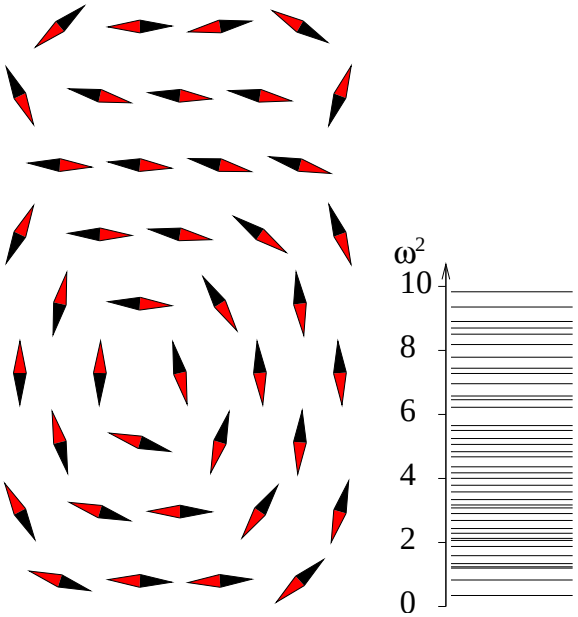
$E_1 = -93.32986$ (55 mal) $\omega_1^2 = 0.01178$



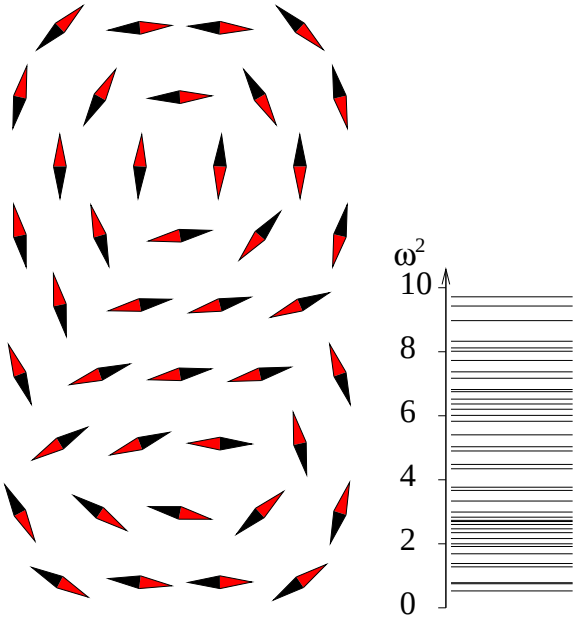
$E_2 = -93.11998$ (72 mal) $\omega_1^2 = 0.52025$



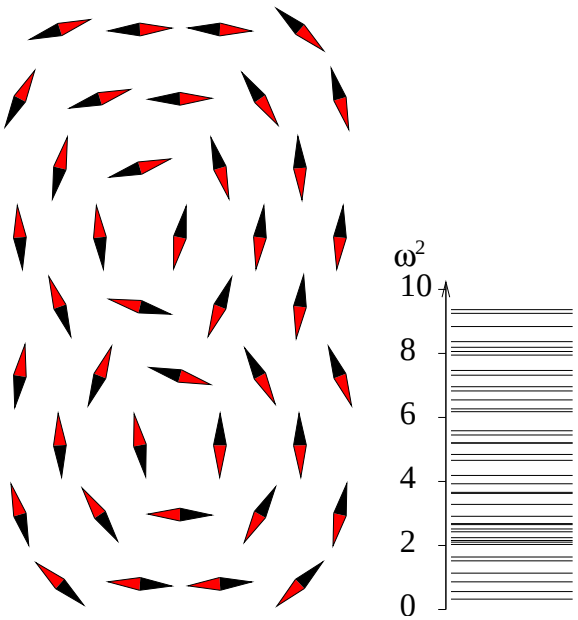
$E_3 = -93.03988$ (53 mal) $\omega_1^2 = 0.53456$



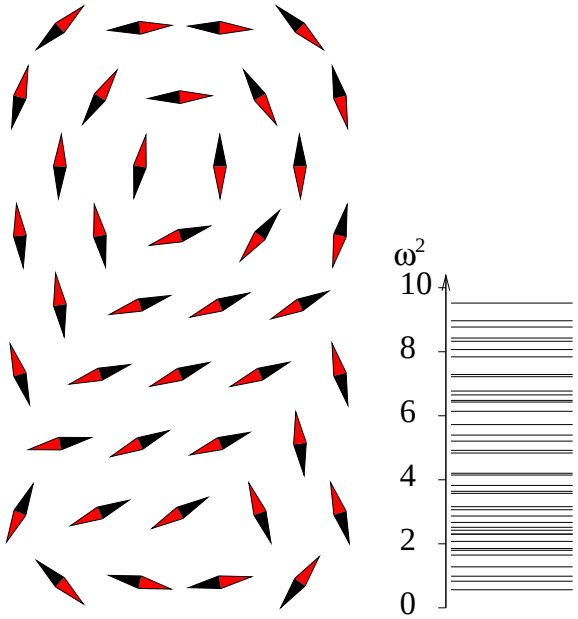
$E_4 = -92.81446$ (98 mal) $\omega_1^2 = 0.34375$



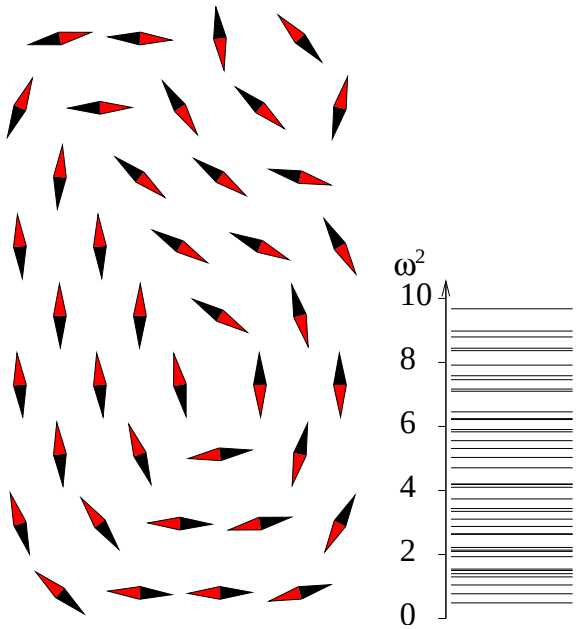
$E_5 = -92.72391$ (87 mal) $\omega_1^2 = 0.52606$



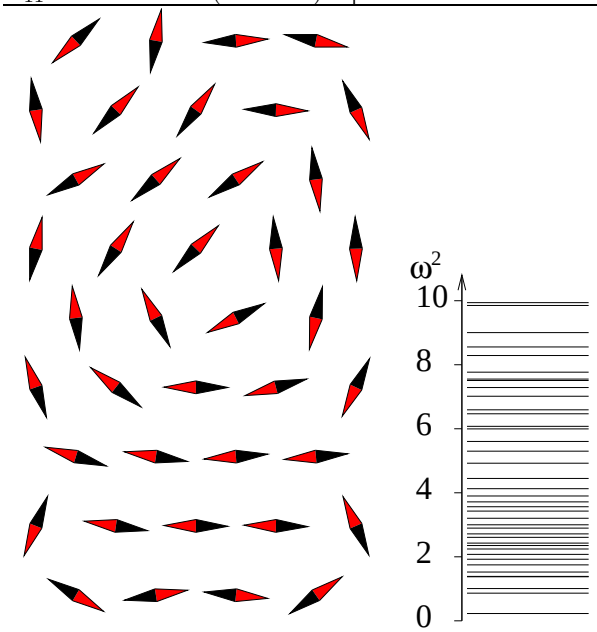
$E_6 = -92.50271$ (78 mal) $\omega_1^2 = 0.32211$



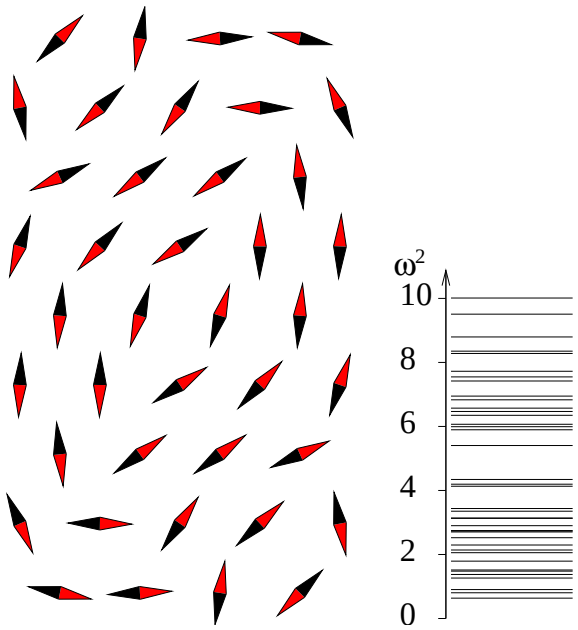
$E_8 = -92.35728$ (115 mal) $\omega_1^2 = 0.56377$



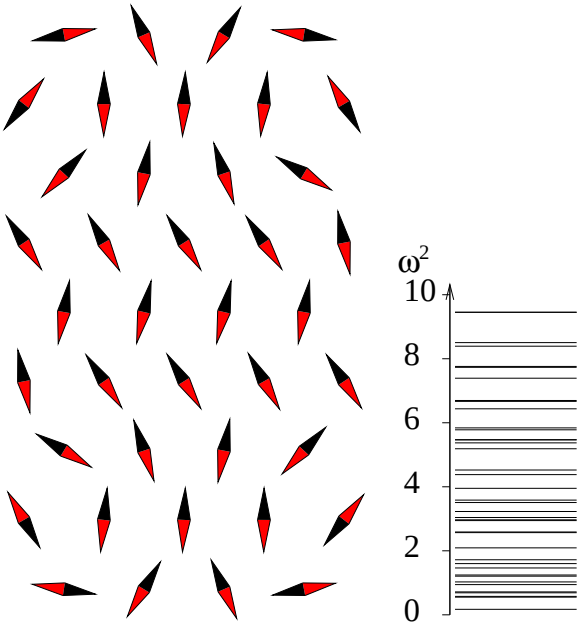
$E_{11} = -91.72884$ (266 mal) $\omega_1^2 = 0.48745$



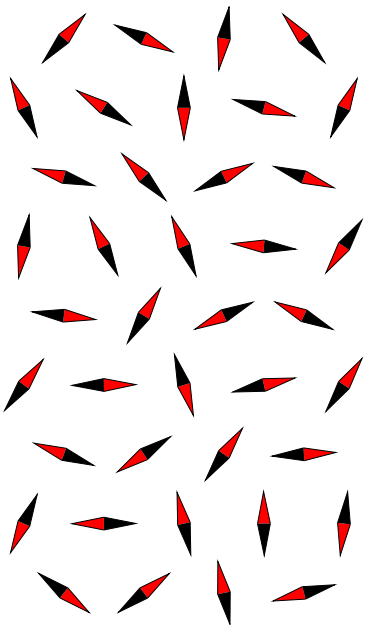
$E_{19} = -90.25422$ (112 mal) $\omega_1^2 = 0.22946$



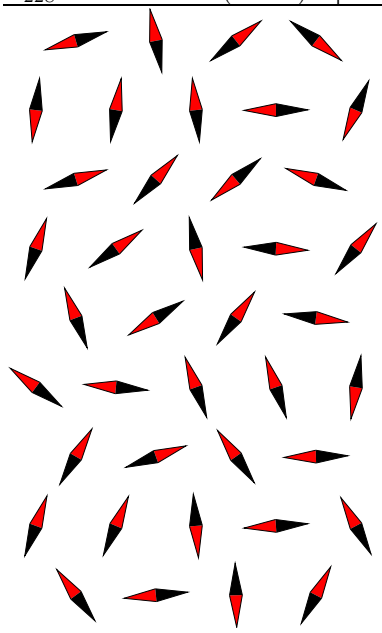
$E_{22} = -89.88817$ (95 mal) $\omega_1^2 = 0.63660$



$E_{227} = -81.44508$ (1 mal) $\omega_1^2 = 0.17068$

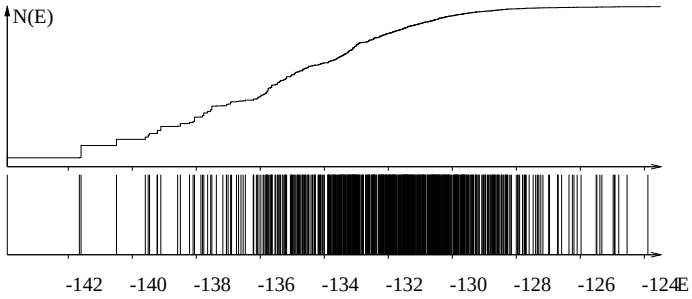


$E_{228} = -81.06083$ (1 mal) $\omega_1^2 = 0.19845$

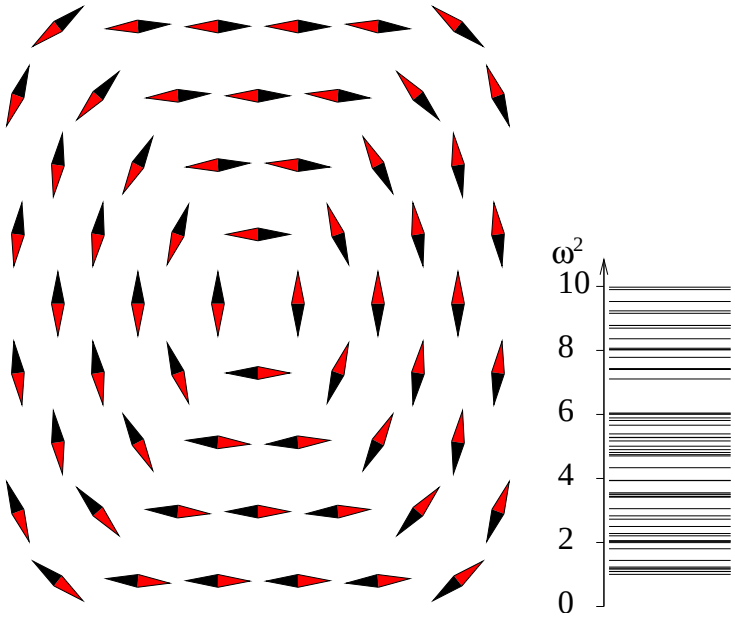


$E_{229} = -80.69094$ (1 mal) $\omega_1^2 = 0.19098$

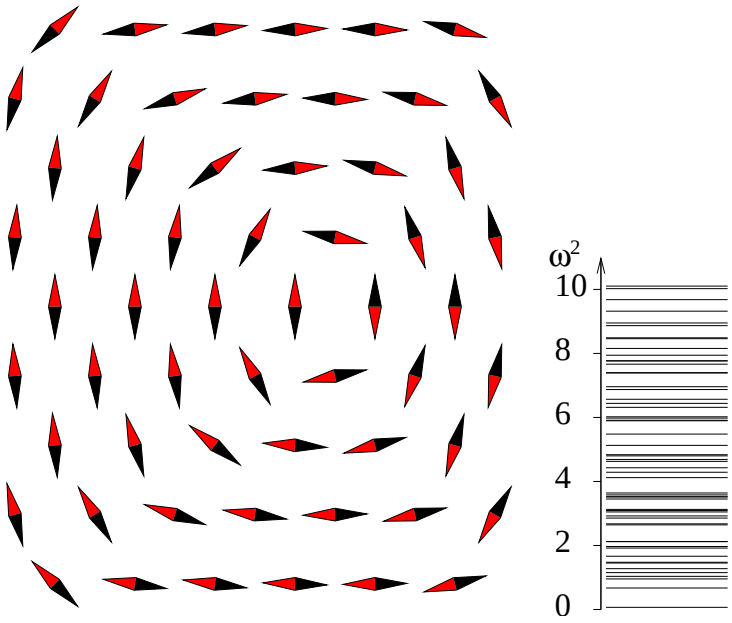
Dreiecks-Gitter mit Rechteckberandung (4,6)



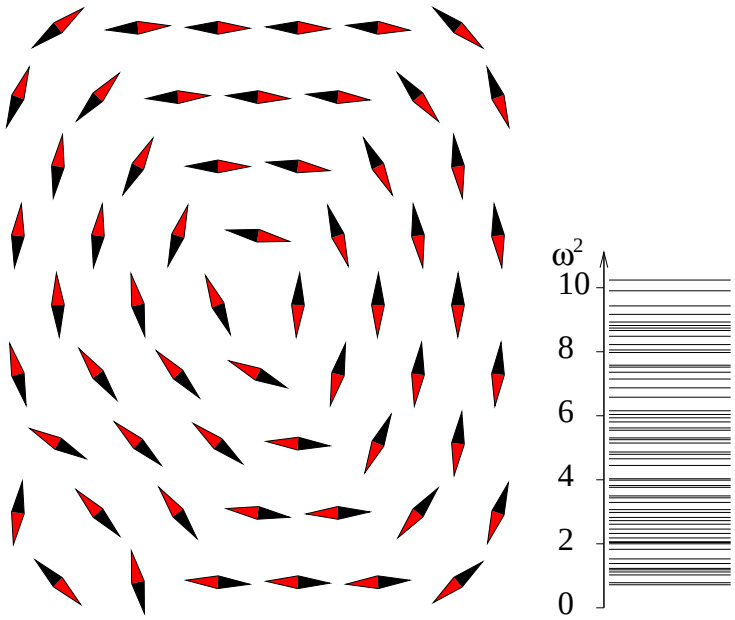
Anzahl Gitterpunkte: 58, Gefundene Energie-Niveaus: 668, Läufe: 3000



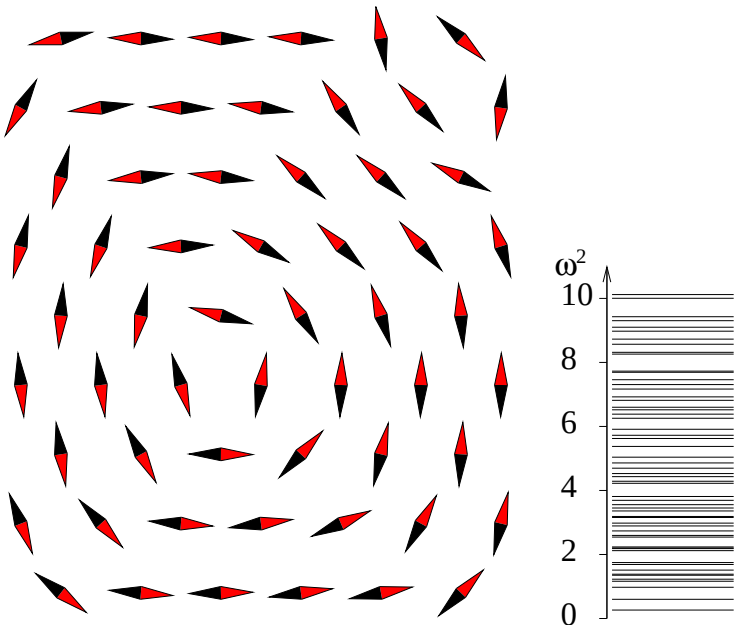
$E_1 = -143.90495$ (166 mal) $\omega_1^2 = 1.00313$



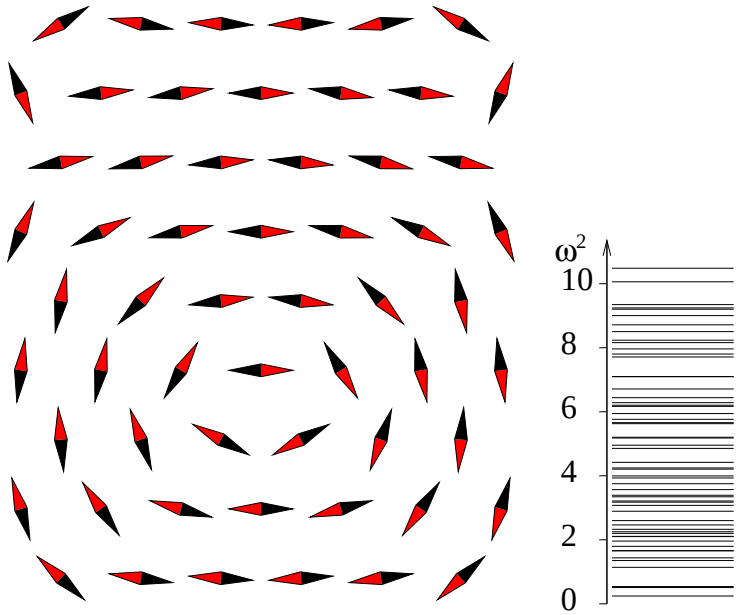
$E_2 = -141.65161$ (4 mal) $\omega_1^2 = 0.06892$



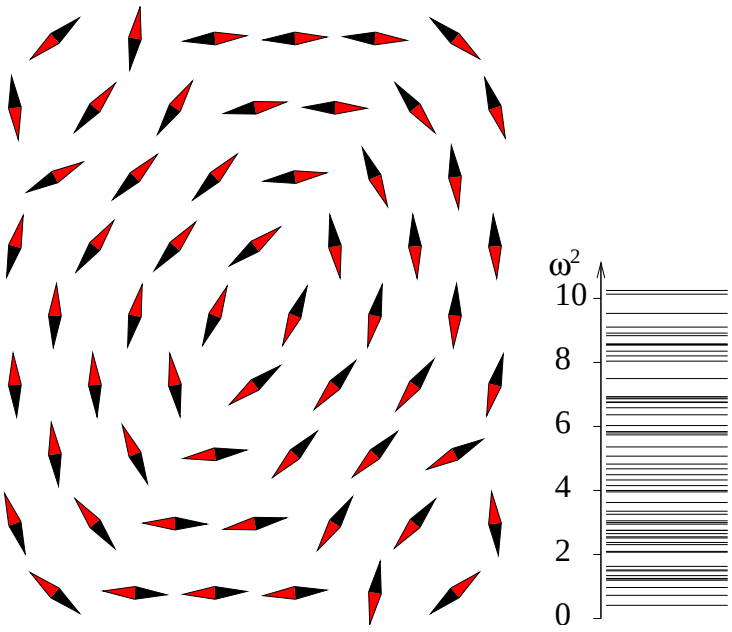
$E_3 = -141.59957$ (228 mal) $\omega_1^2 = 0.72090$



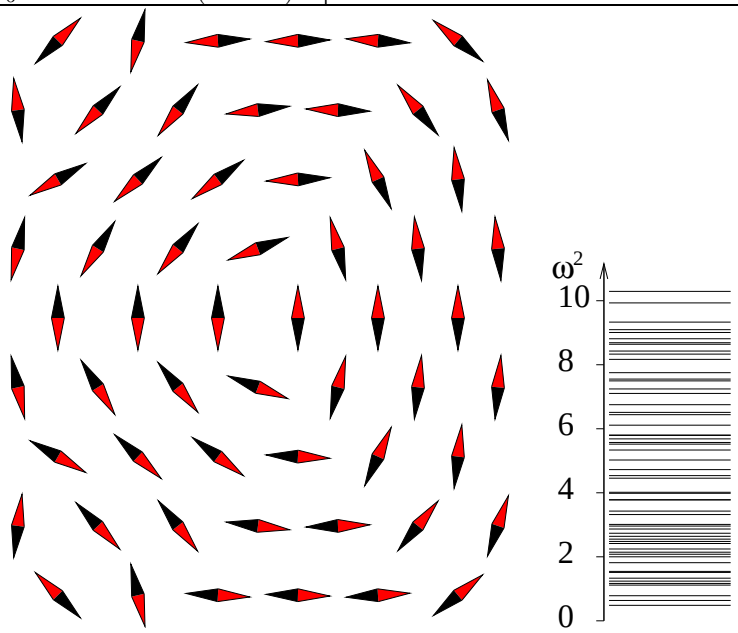
$E_4 = -140.49136$ (115 mal) $\omega_1^2 = 0.26390$



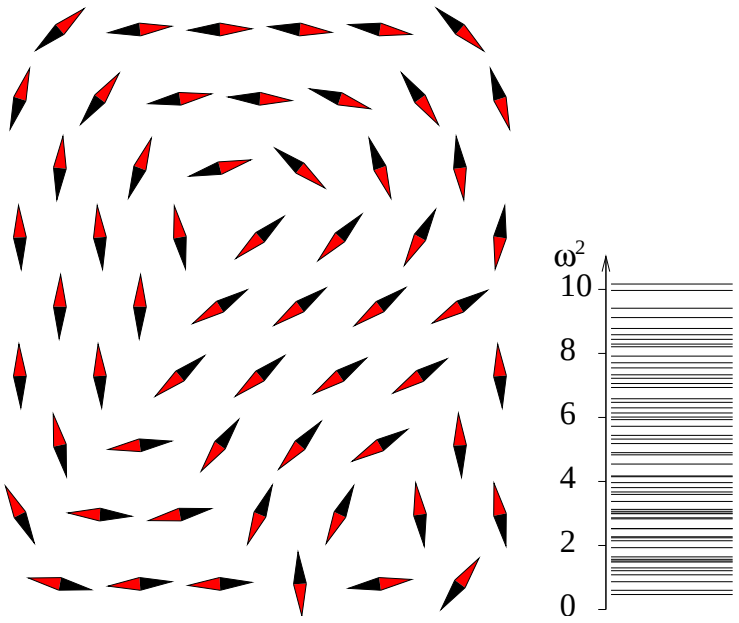
$E_5 = -139.59331$ (42 mal) $\omega_1^2 = 0.24523$



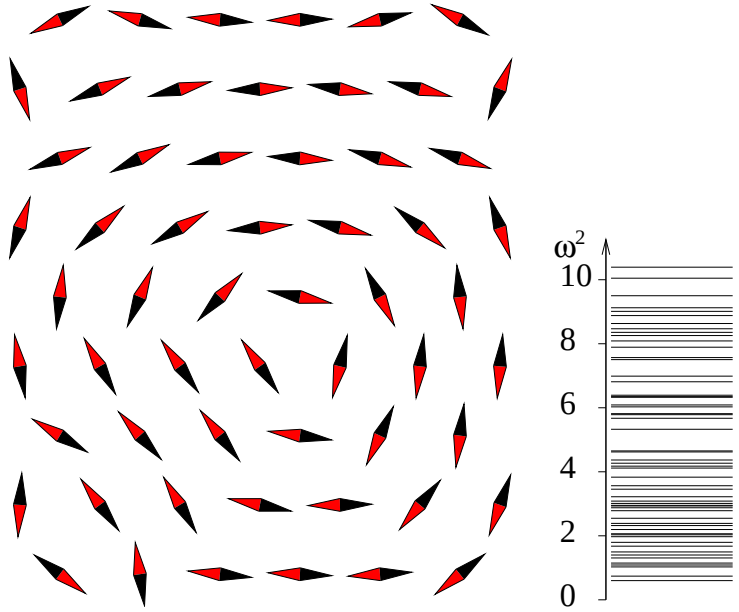
$E_6 = -139.50320$ (40 mal) $\omega_1^2 = 0.41094$



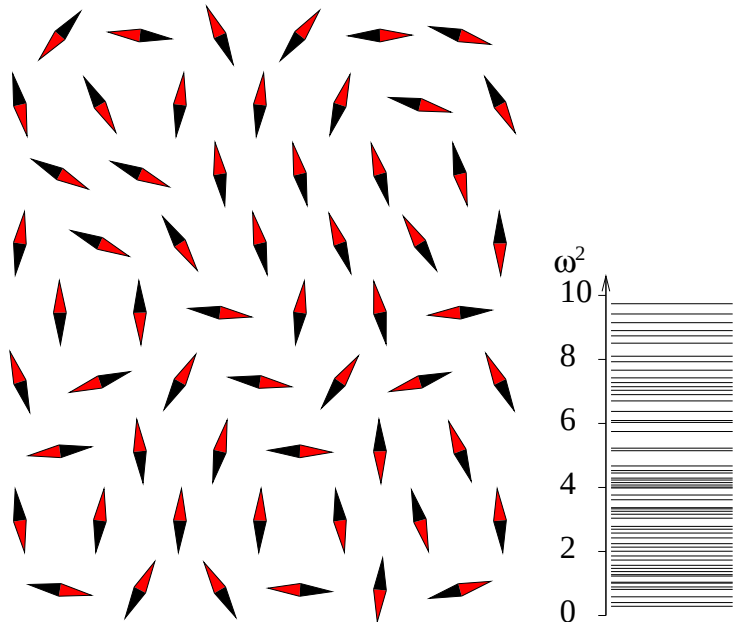
$E_{10} = -139.10869$ (74 mal) $\omega_1^2 = 0.48503$



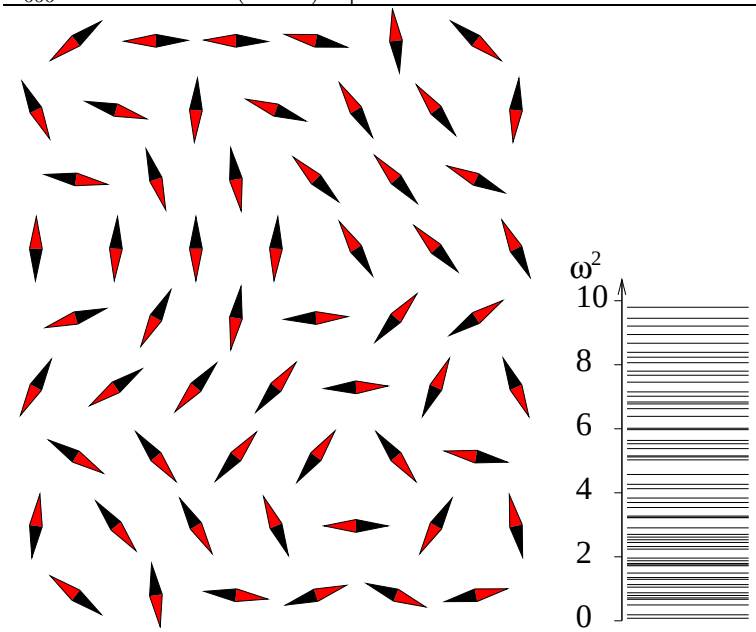
$E_{15} = -138.05580$ (79 mal) $\omega_1^2 = 0.46940$



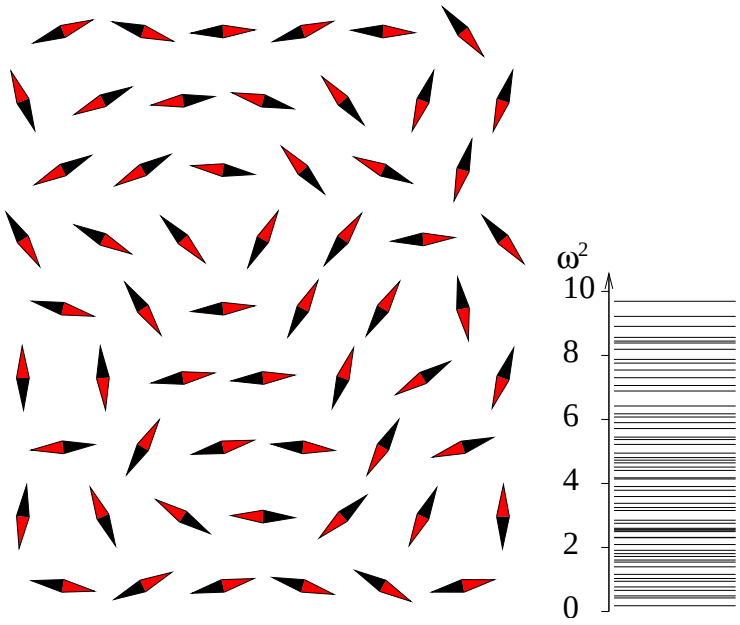
$E_{21} = -137.51302$ (66 mal) $\omega_1^2 = 0.60054$



$E_{666} = -124.80110$ (1 mal) $\omega_1^2 = 0.28759$

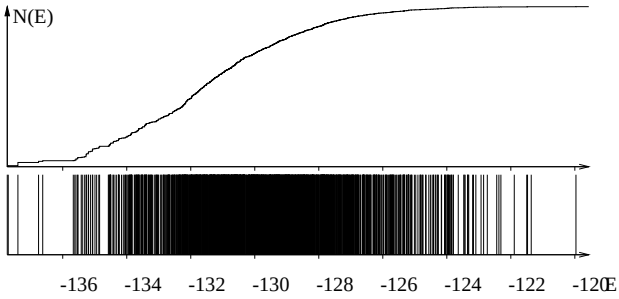


$E_{667} = -124.53974$ (1 mal) $\omega_1^2 = 0.07917$

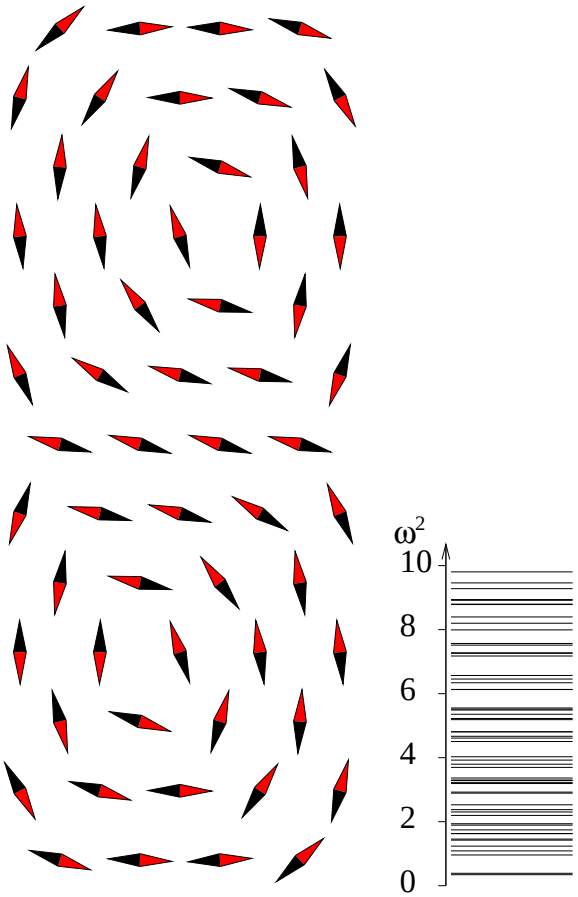


$E_{668} = -123.89050$ (1 mal) $\omega_1^2 = 0.17916$

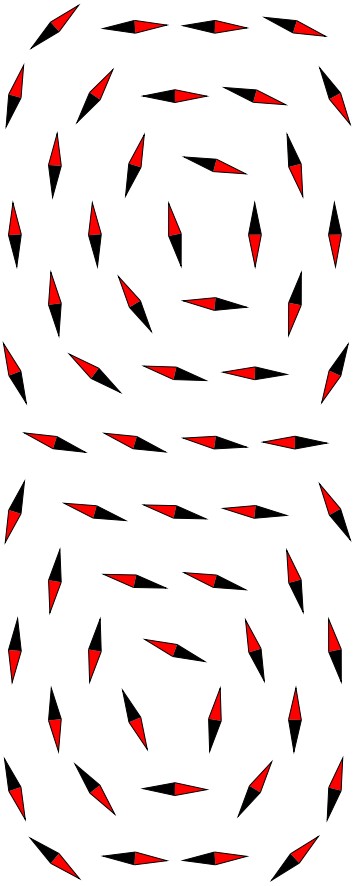
Dreiecks-Gitter mit Rechteckberandung (6,4)



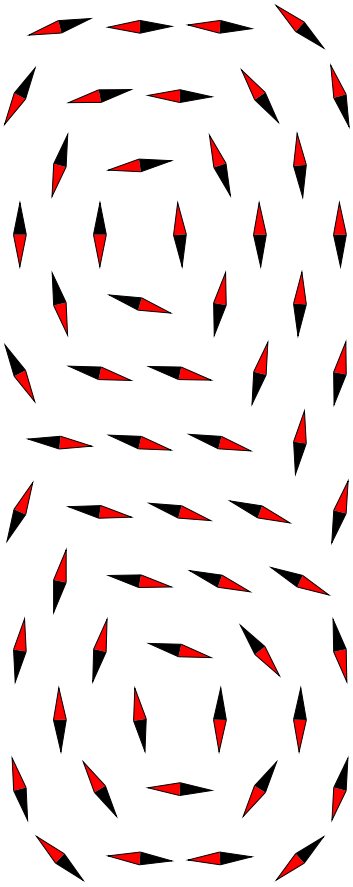
Anzahl Gitterpunkte: 58, Gefundene Energie-Niveaus: 1269, Läufe: 3000



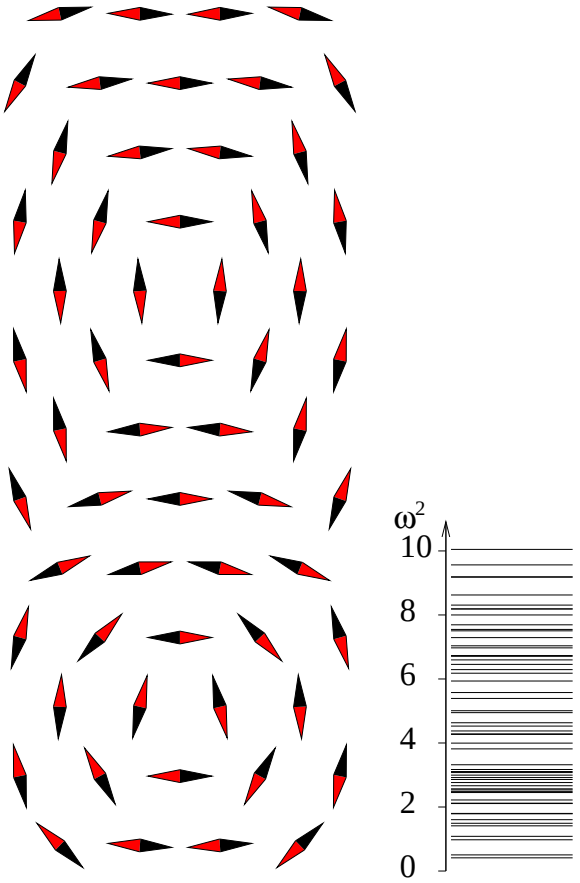
$E_1 = -137.73227$ (5 mal) $\omega_1^2 = 0.34274$



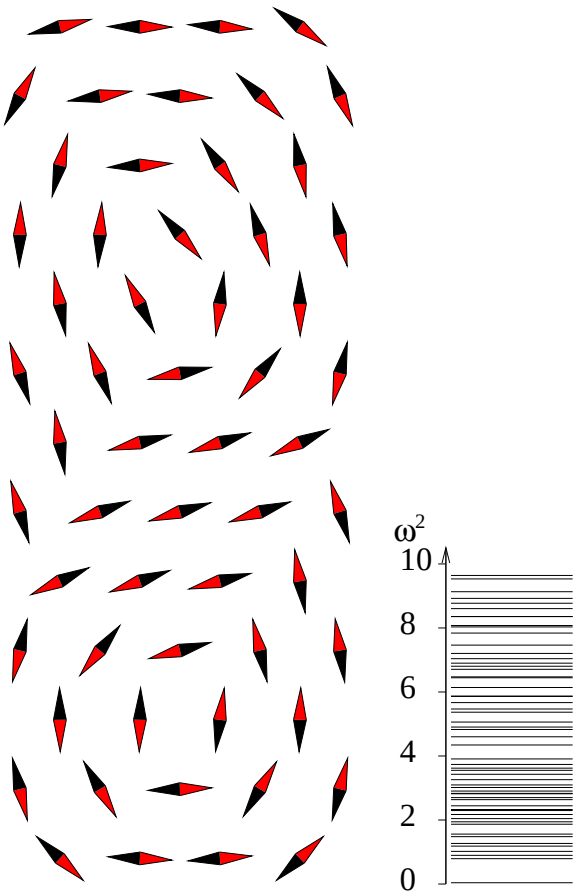
$E_2 = -137.70324$ (14 mal) $\omega_1^2 = 0.20673$



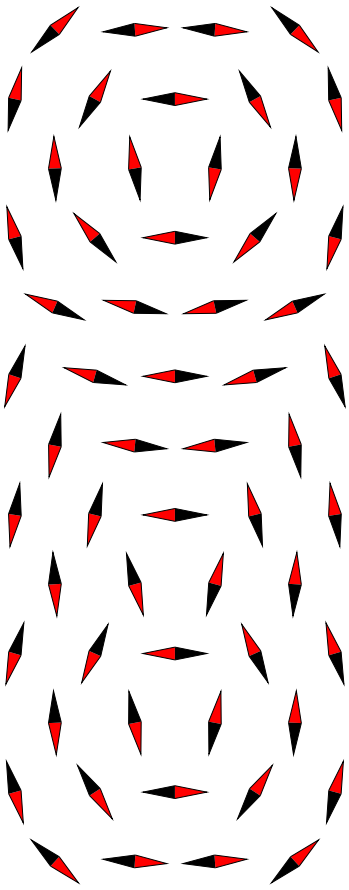
$E_3 = -137.40051$ (60 mal) $\omega_1^2 = 0.54153$



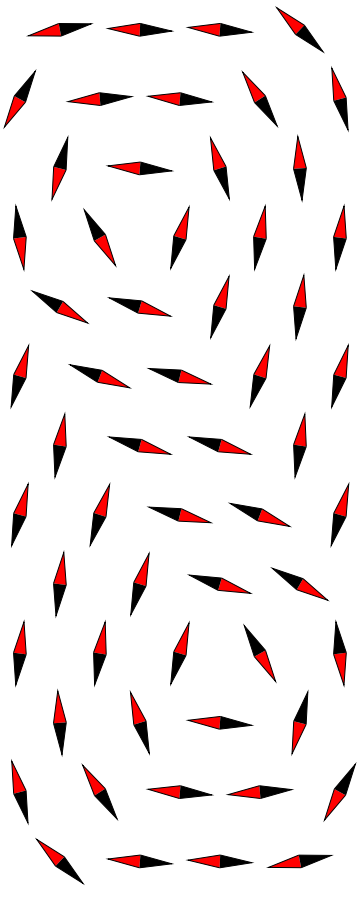
$E_4 = -136.75423$ (22 mal) $\omega_1^2 = 0.41353$



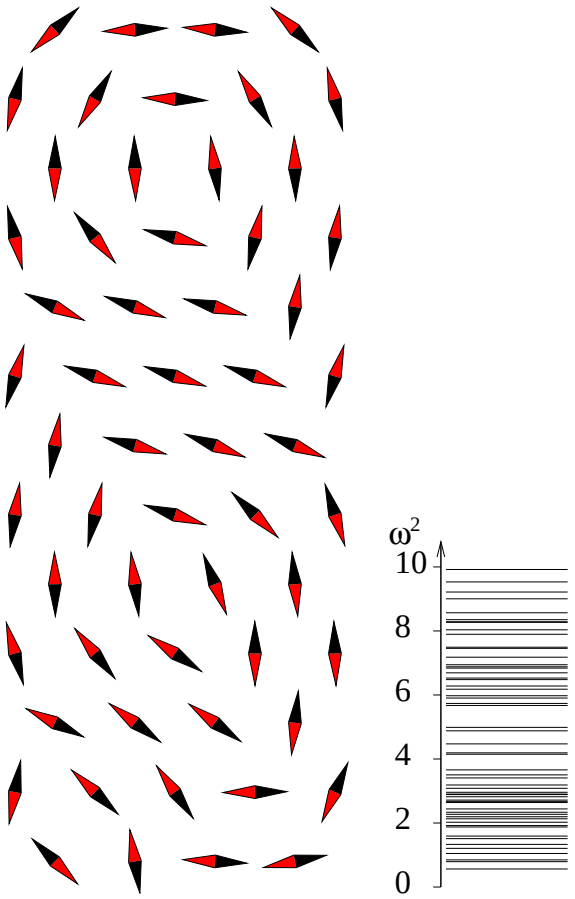
$E_5 = -136.62594$ (11 mal) $\omega_1^2 = 0.03896$



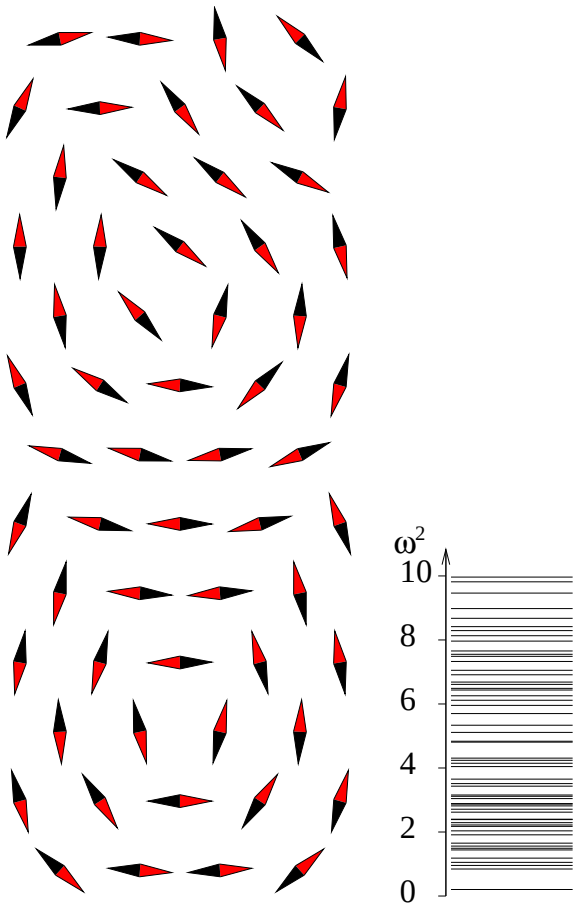
$E_6 = -135.66987$ (2 mal) $\omega_1^2 = 0.27260$



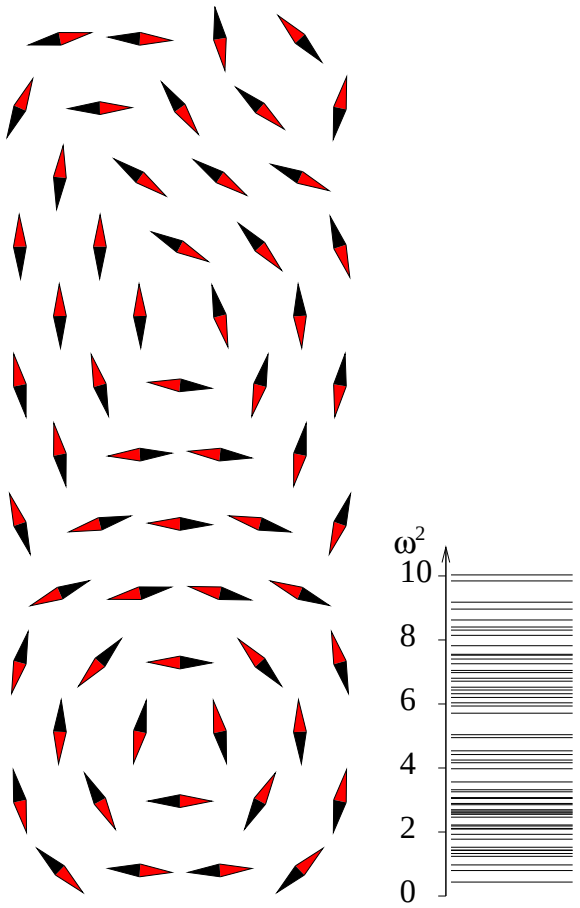
$E_8 = -135.58409$ (23 mal) $\omega_1^2 = 0.64543$



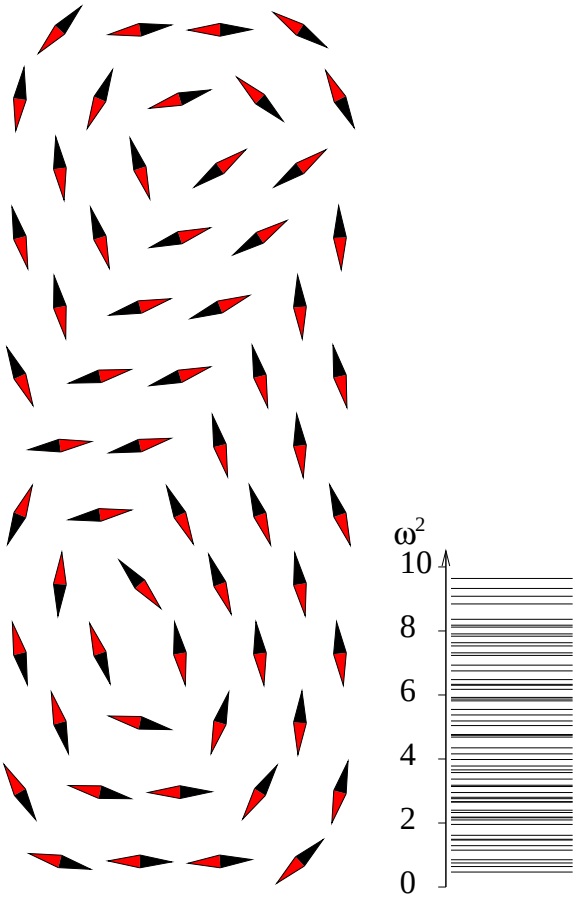
$E_{14} = -135.27242$ (37 mal) $\omega_1^2 = 0.56485$



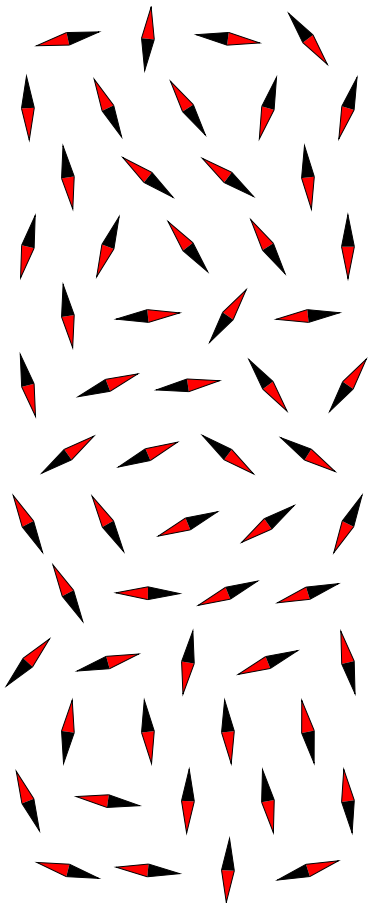
$E_{16} = -135.20282$ (23 mal) $\omega_1^2 = 0.20489$



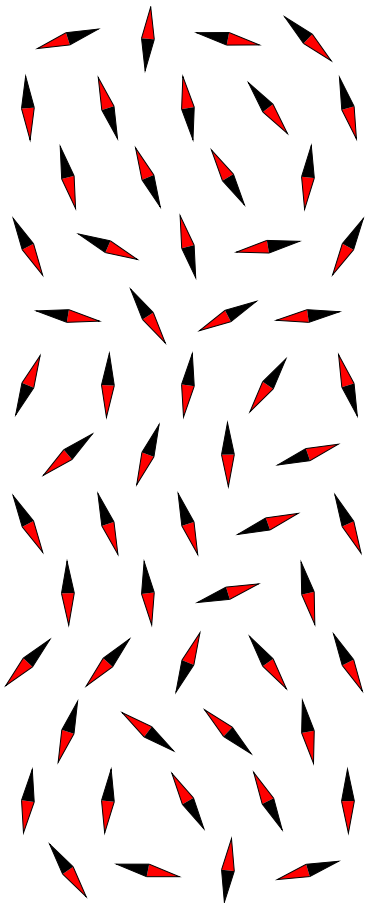
$E_{19} = -135.07394$ (27 mal) $\omega_1^2 = 0.43456$



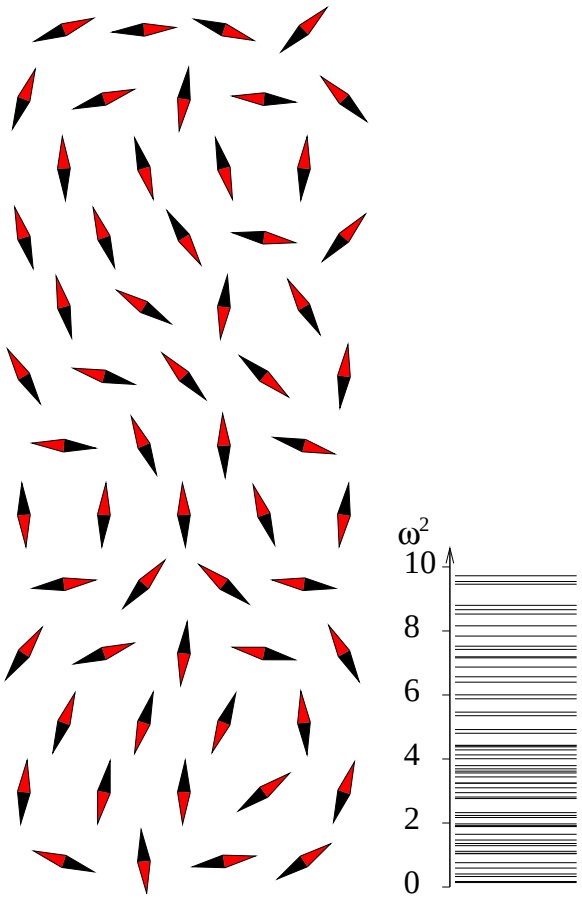
$E_{35} = -134.41640$ (26 mal) $\omega_1^2 = 0.46654$



$E_{1267} = -121.47644$ (1 mal) $\omega_1^2 = 0.19704$

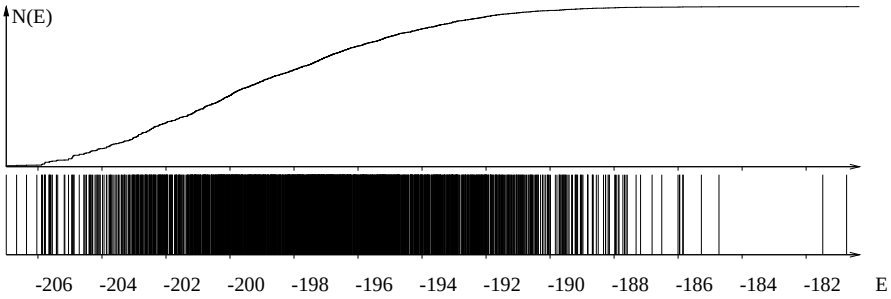


$E_{1268} = -121.36112$ (1 mal) $\omega_1^2 = 0.11344$

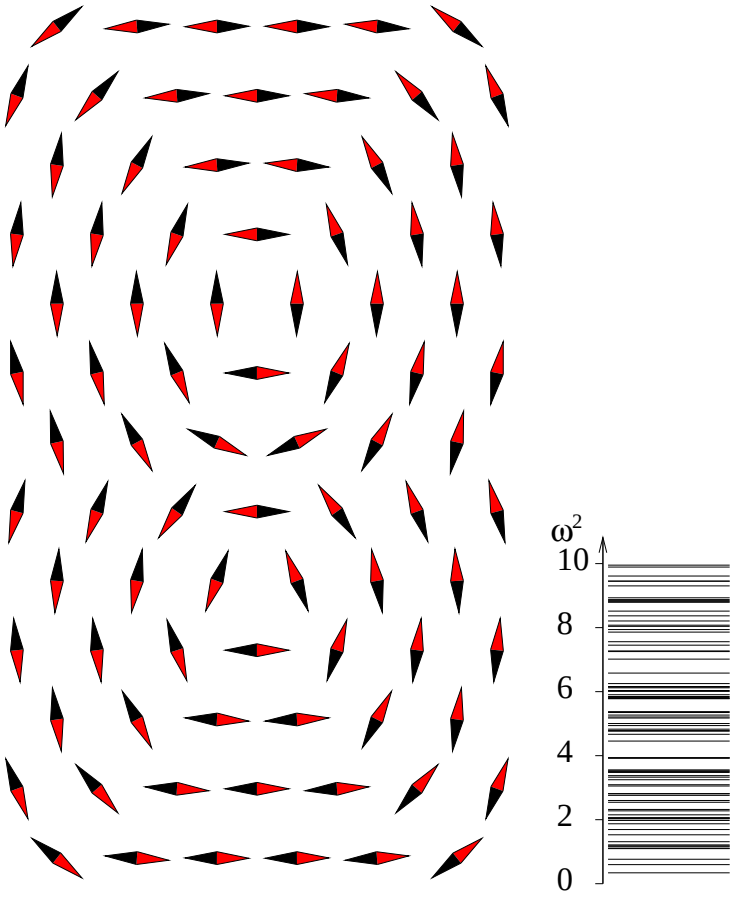


$E_{1269} = -119.96463$ (1 mal) $\omega_1^2 = 0.13849$

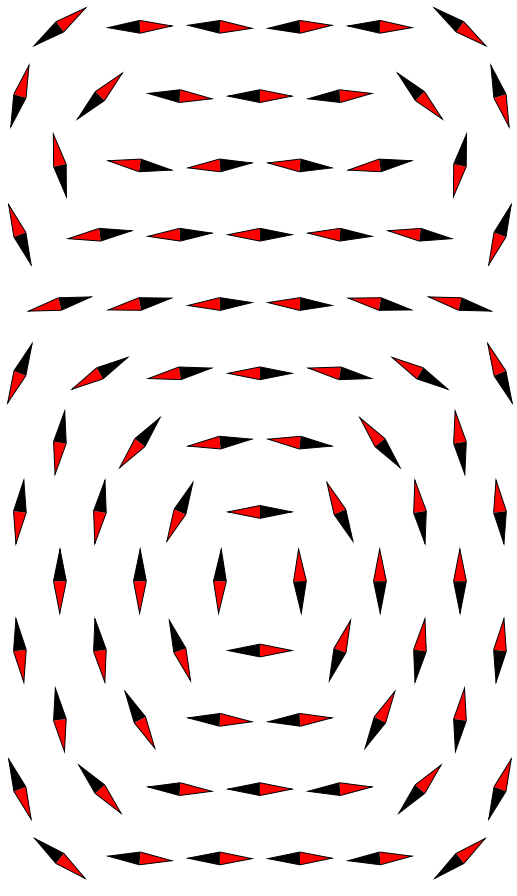
Dreiecks-Gitter mit Rechteckberandung (6,6)



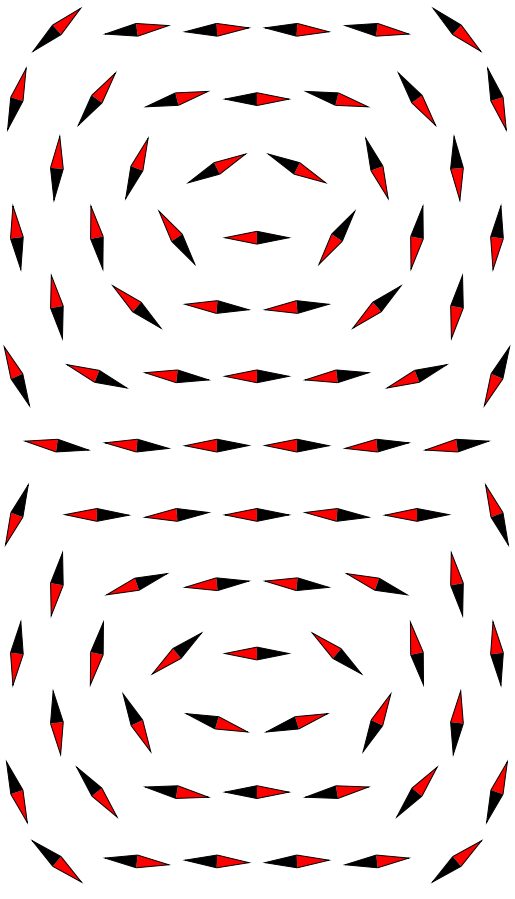
Anzahl Gitterpunkte: 84, Gefundene Energie-Niveaus: 1884, Läufe: 3000



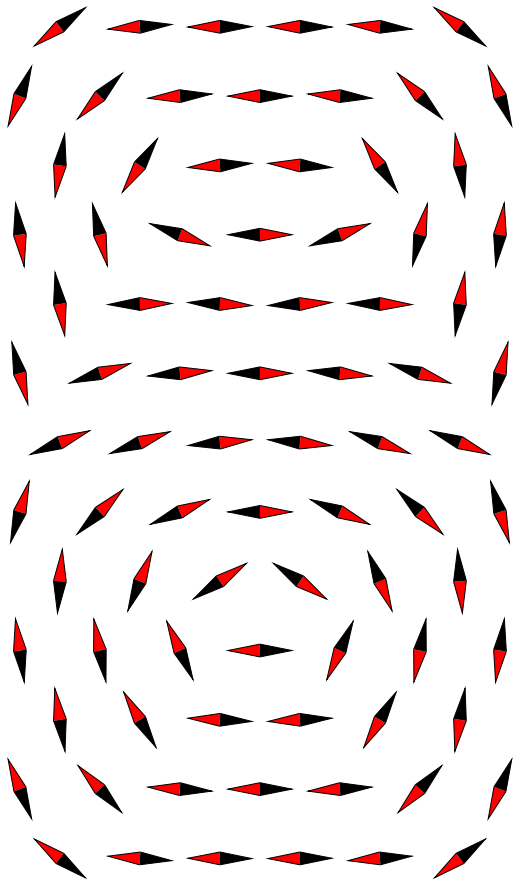
$E_1 = -206.98905$ (19 mal) $\omega_1^2 = 0.34071$



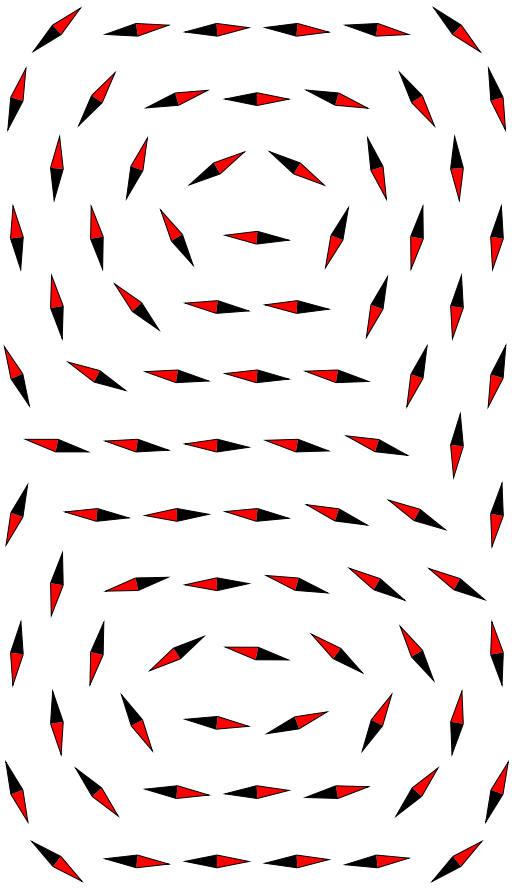
$E_2 = -206.66770$ (6 mal) $\omega_1^2 = 0.60438$



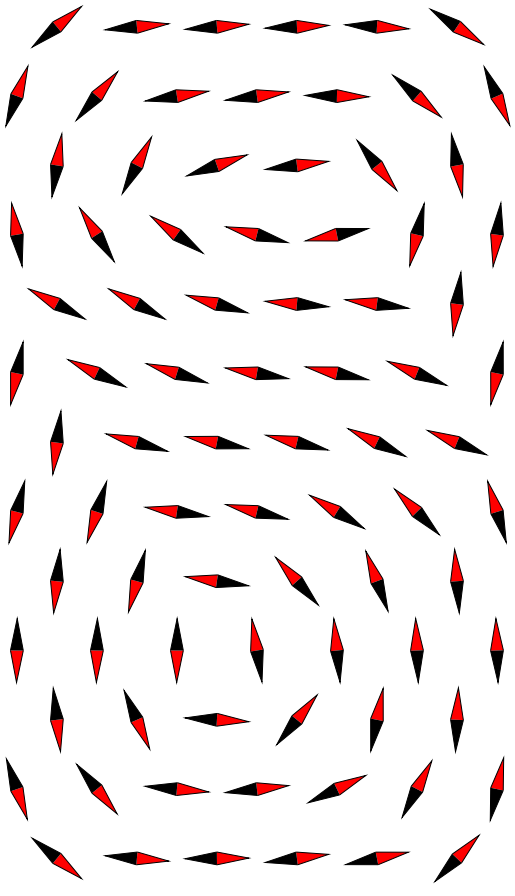
$E_3 = -206.35709$ (3 mal) $\omega_1^2 = 0.10447$



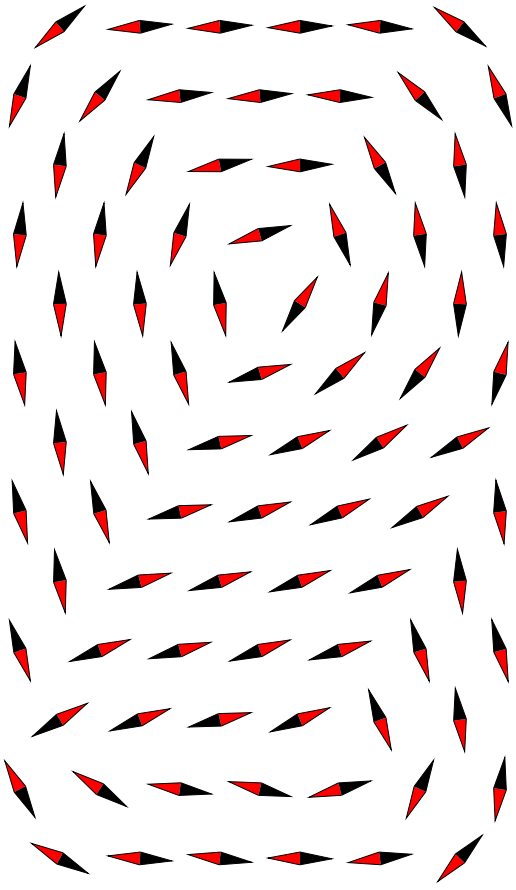
$E_4 = -206.03444$ (2 mal) $\omega_1^2 = 0.12694$



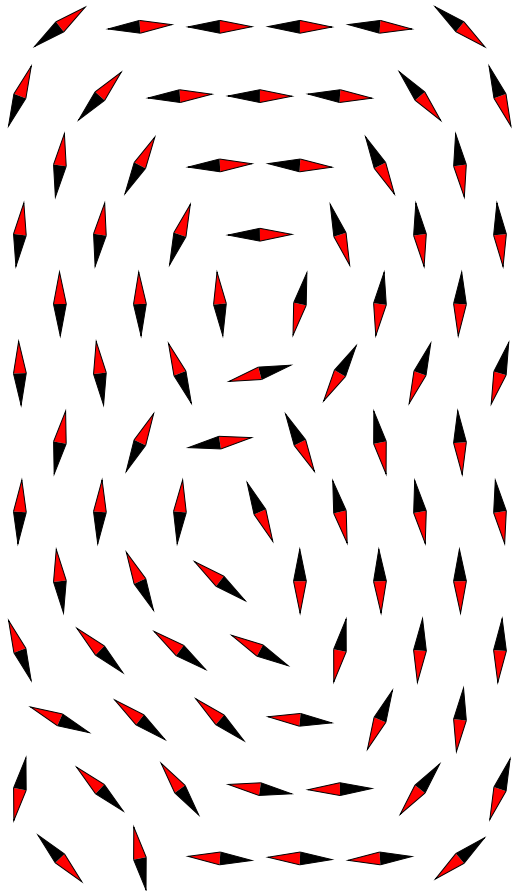
$E_5 = -205.88306$ (9 mal) $\omega_1^2 = 0.13706$



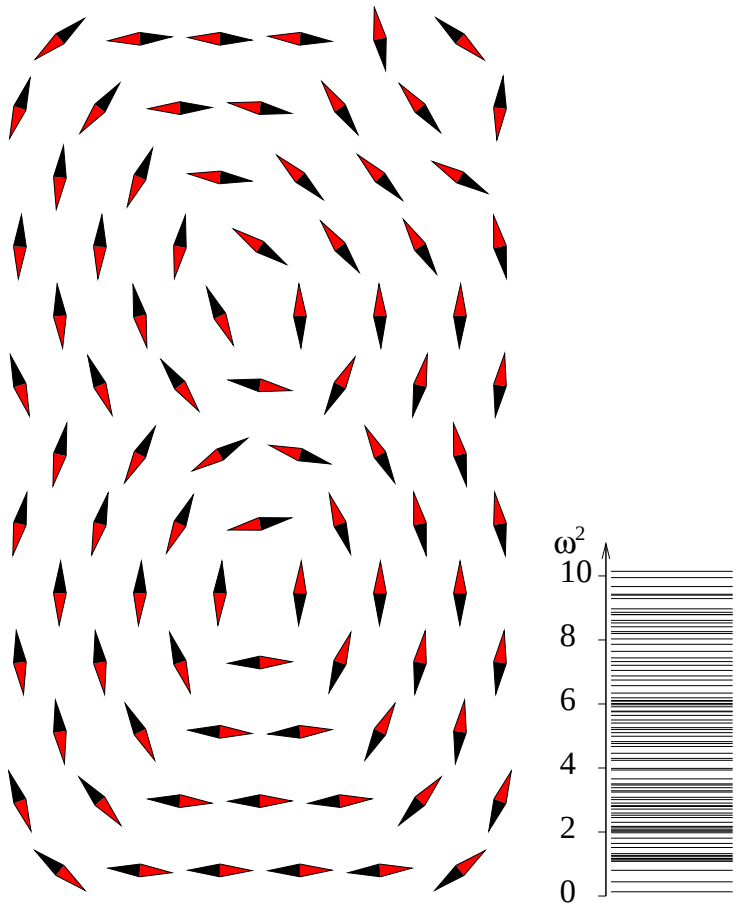
$E_6 = -205.87712$ (5 mal) $\omega_1^2 = 0.14527$



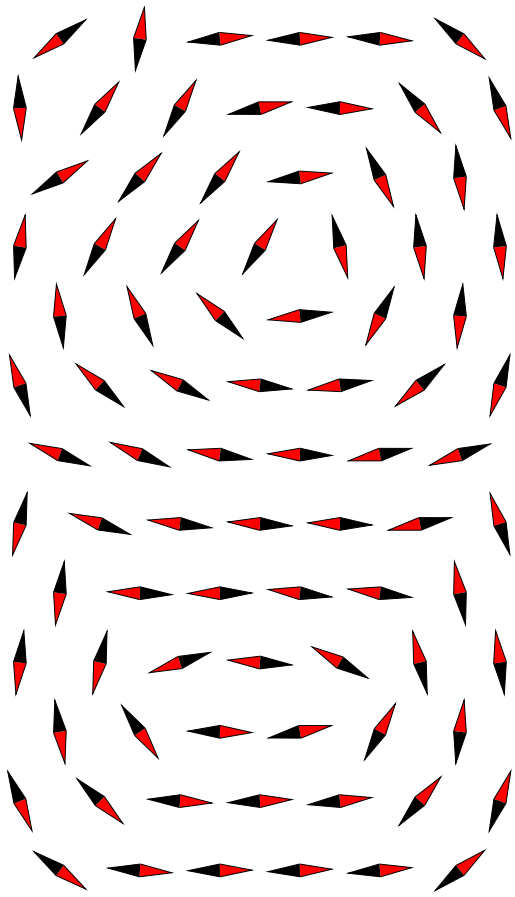
$E_{24} = -205.04333$ (22 mal) $\omega_1^2 = 0.39355$



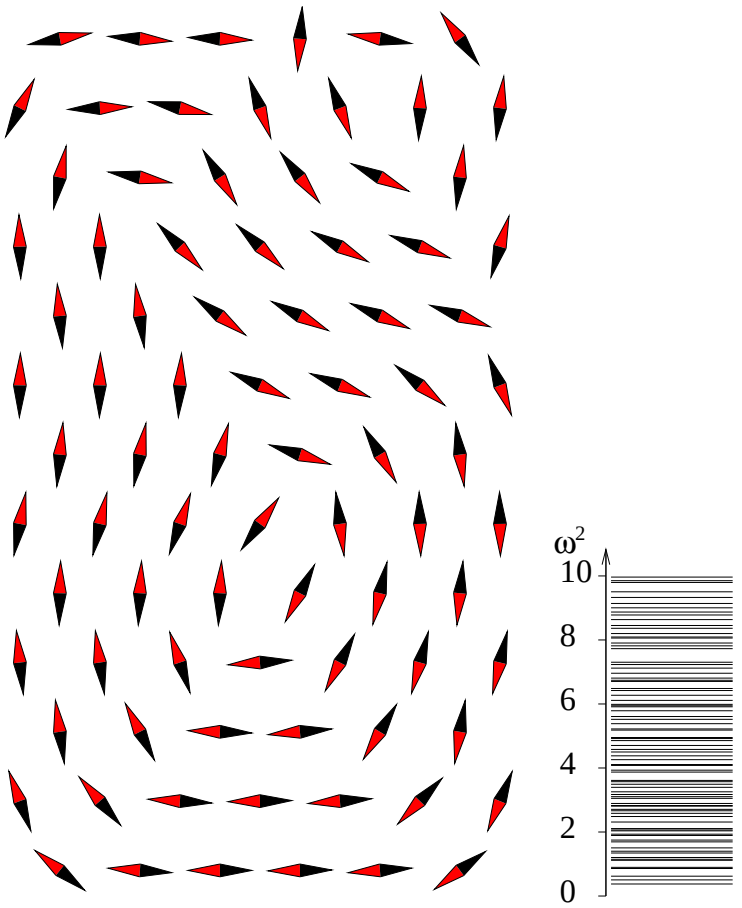
$E_{27} = -204.91449$ (26 mal) $\omega_1^2 = 0.36123$



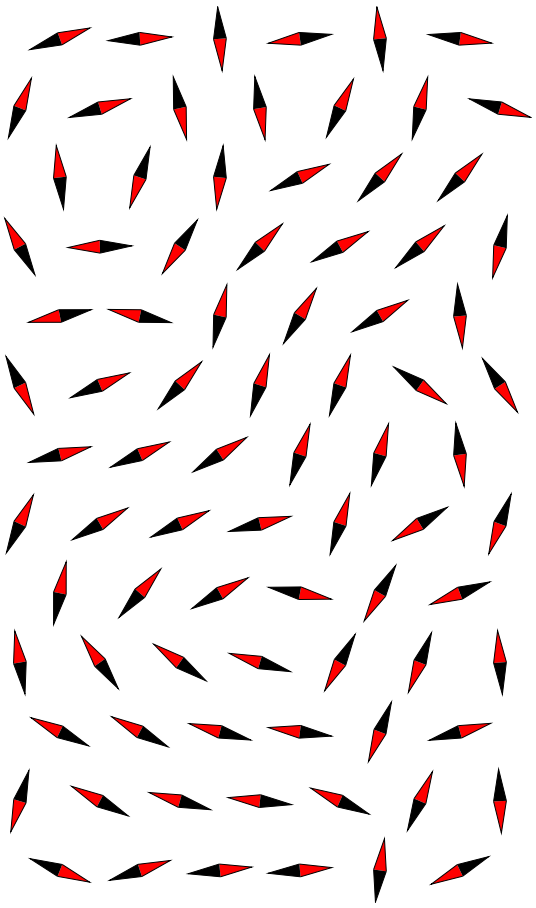
$E_{30} = -204.70817$ (17 mal) $\omega_1^2 = 0.13224$



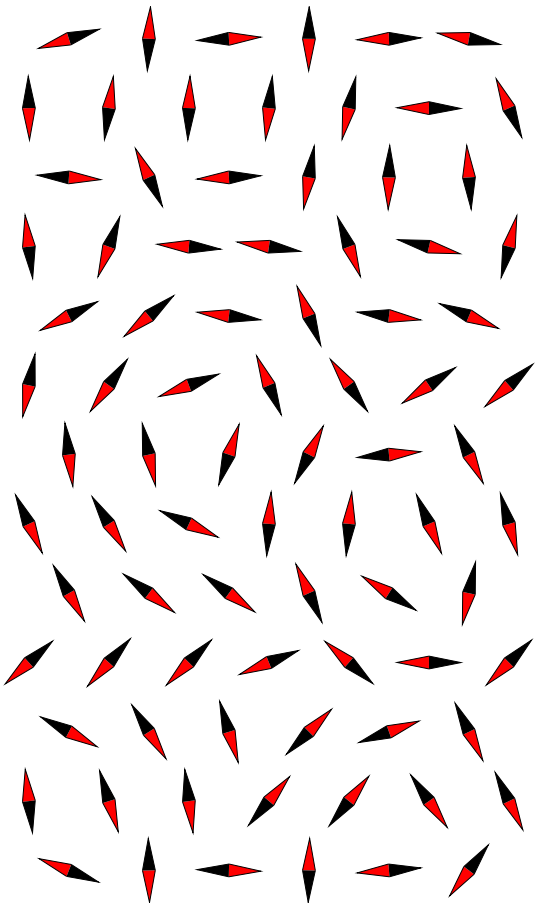
$E_{45} = -204.14768$ (18 mal) $\omega_1^2 = 0.45812$



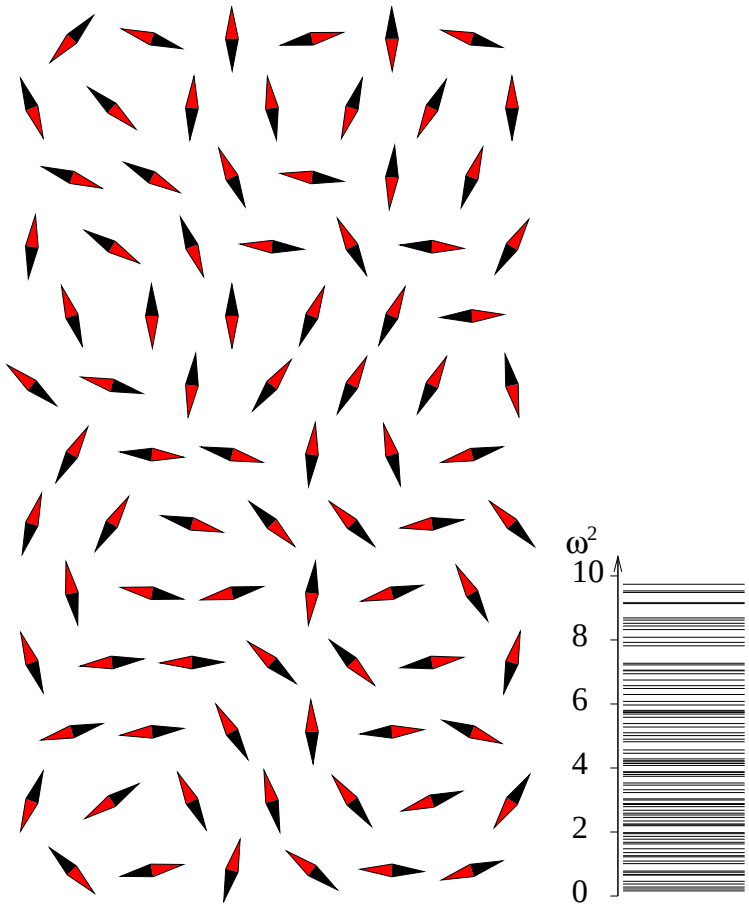
$E_{51} = -203.86206$ (17 mal) $\omega_1^2 = 0.37519$



$E_{1882} = -184.72126$ (1 mal) $\omega_1^2 = 0.07605$



$E_{1883} = -181.47840$ (1 mal) $\omega_1^2 = 0.21945$



$E_{1884} = -180.73369$ (1 mal) $\omega_1^2 = 0.16029$

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