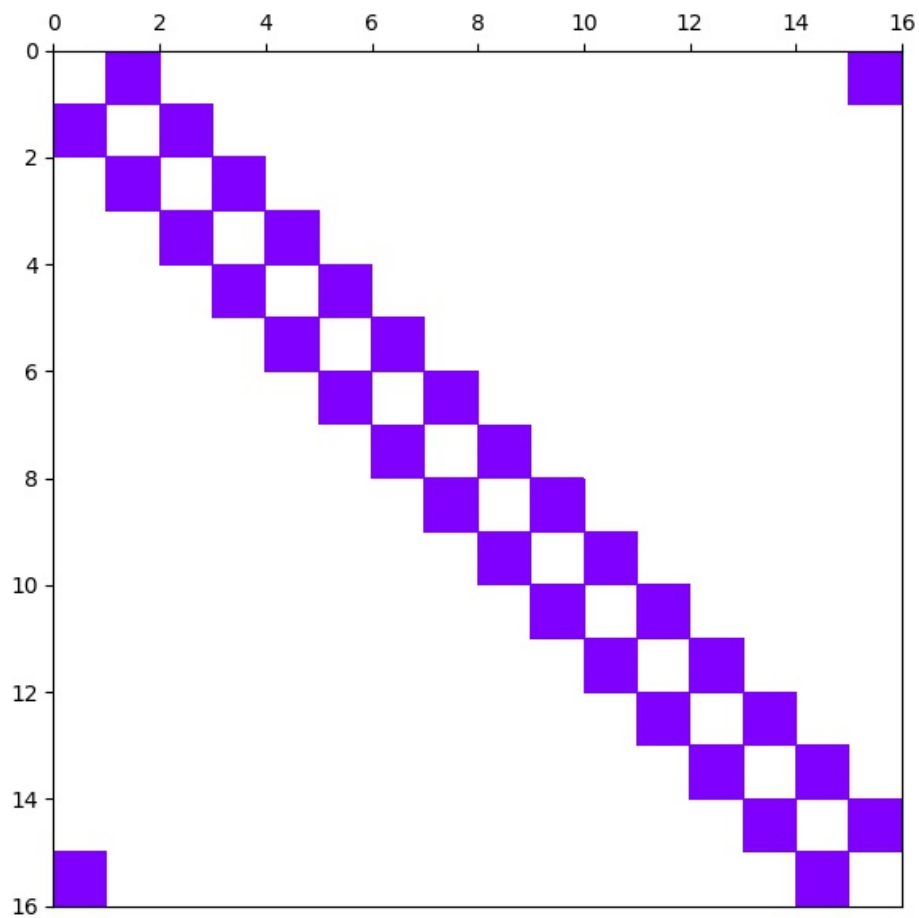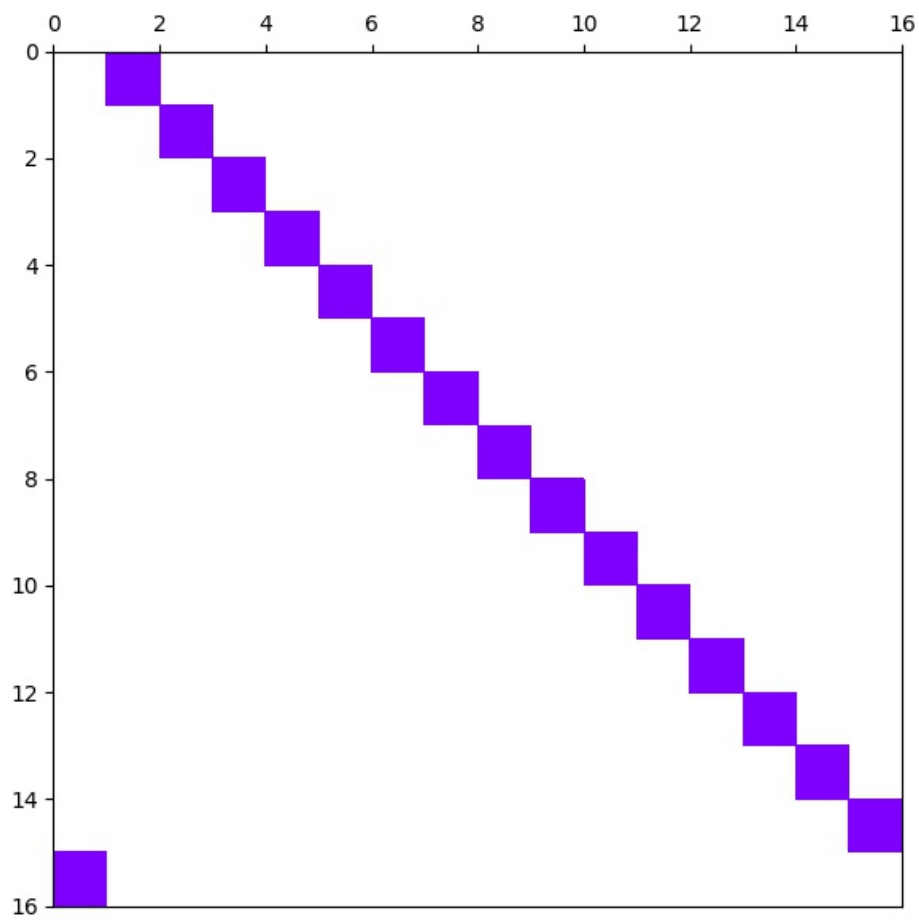# 1. Gráf

1.1. Szomszédossági mátrix

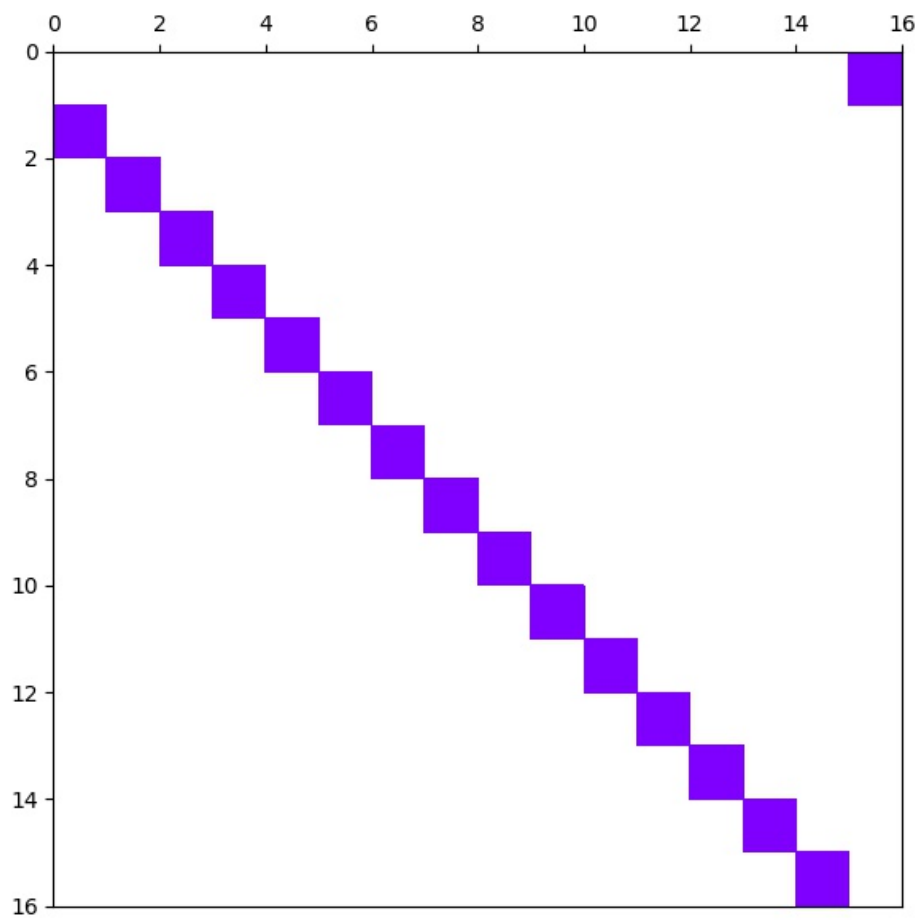1. ábra. Gráf szomszédossági mátrixa

1.2. Érme oldal

2. ábra. 0. érmeoldal szomszédossági mátrixa

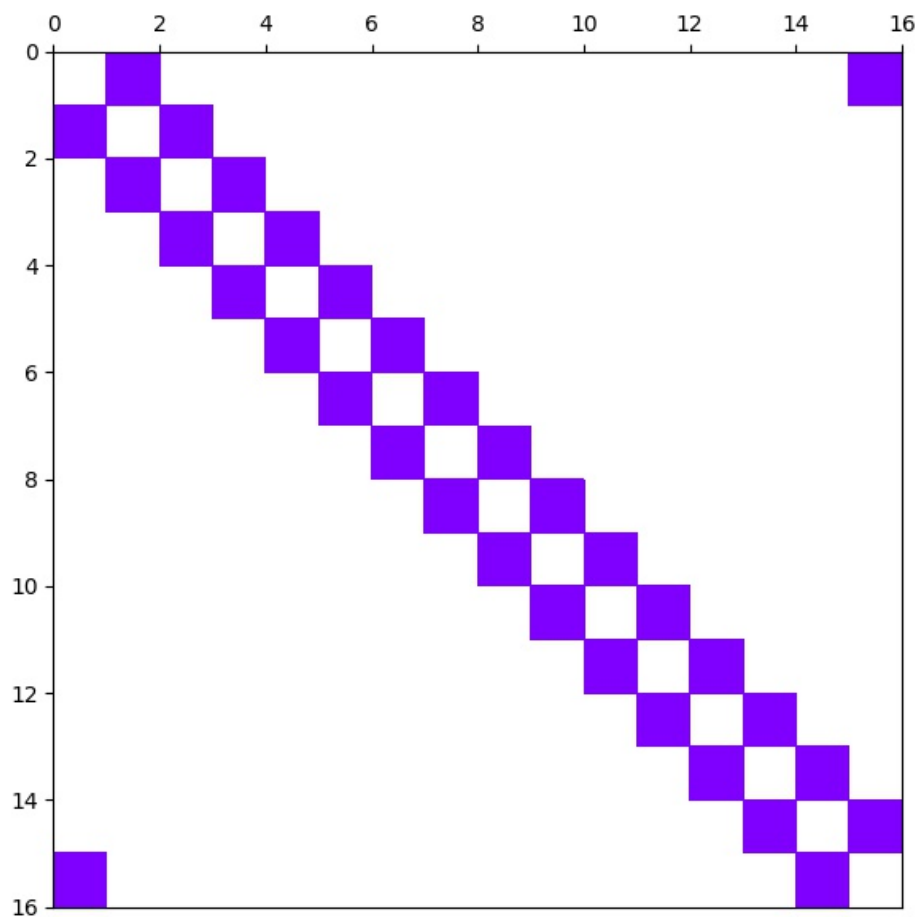## 1.3. Érme oldal

3. ábra. 1. érmeoldal szomszédossági mátrixa
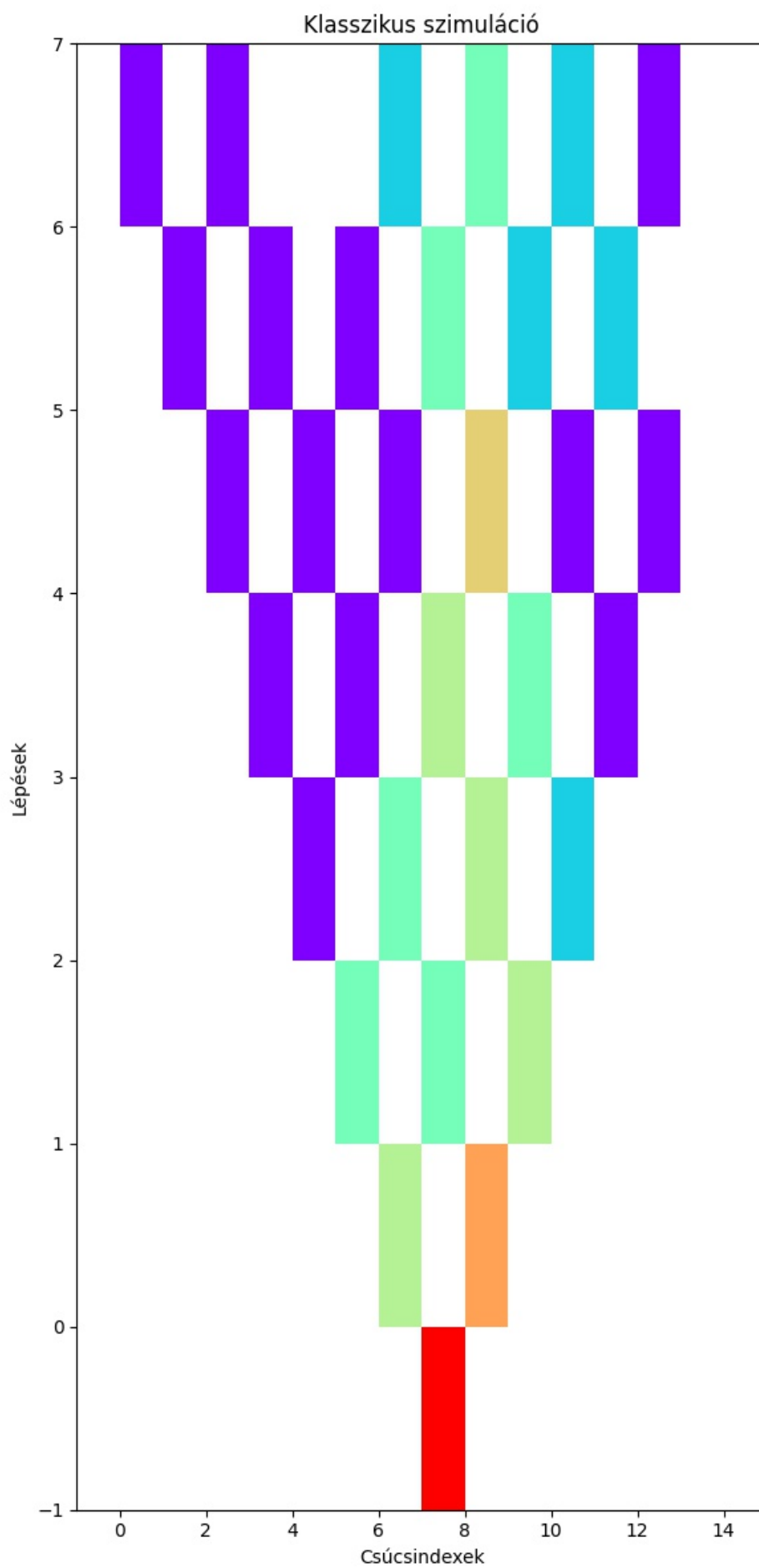
1.4. Részgráf

Irányítatlan élekből álló út.

4. ábra. 0. részgráf szomszédossági mátrixa
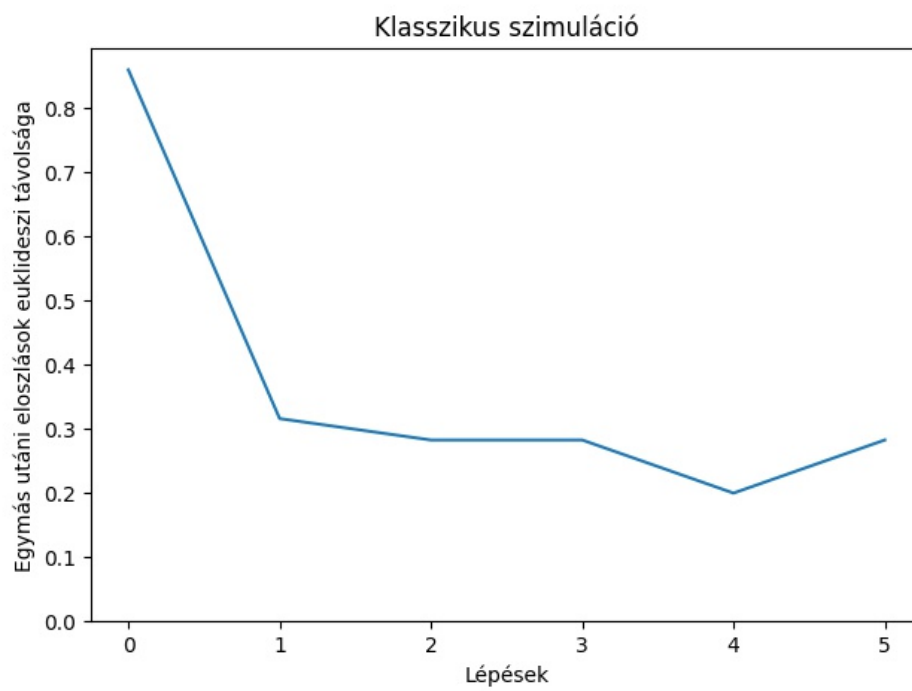
2. Szimulációk

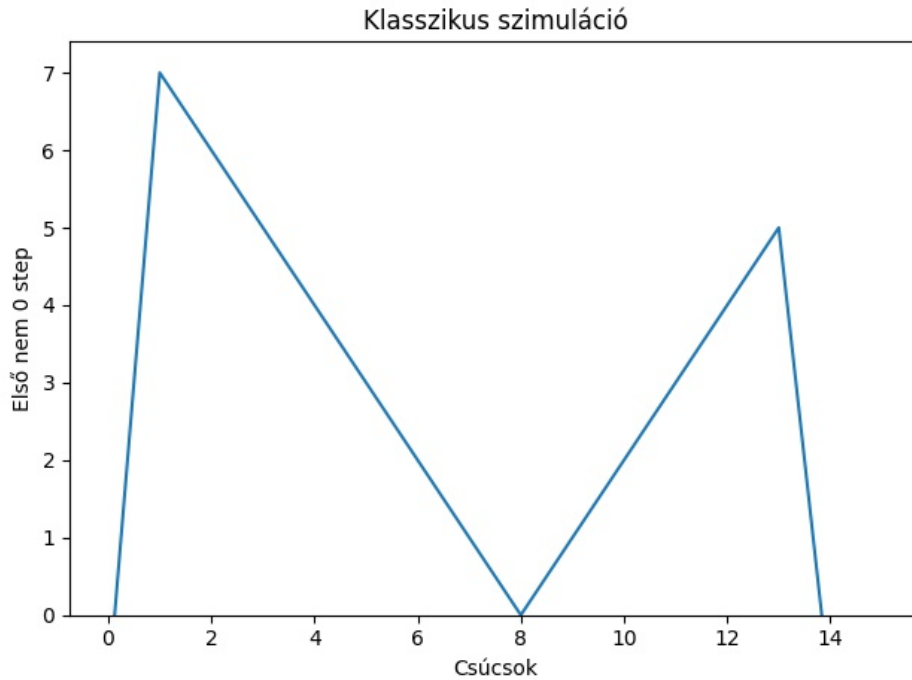## 2.1. Klasszikus szimuláció

Kezdőcsúcs: 8 Bolyongók: 10 Lépésszám: 7

Klasszikus szimuláció

5. ábra. 0. szimuláció

sim_00/counts_short.jpg

6. ábra. 0. szimuláció levágva az elejét

7. ábra. 0. szimuláció mixing time

8. ábra. 0. szimuláció hitting time

2.2. Sajátértékek, sajátvektorok

1.0000000000: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (0.2500000000, 0.3535533906, −0.0000000000, −0.3535533906, 0.2500000000, −0.0000000000, 0.3530991987, 0.0000000000, −0.3535162480, 0.3535533906, −0.3530306344, −0.0052377969, −0.0000000000, 0.3515580543, 0.0147186202, 0.0073640977)

0.9238795325: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (0.2500000000, −0.3535533906, 0.3535533906, −0.3535533906, 0.2500000000, −0.3535533906, 0.0179152412, 0.3535533906, −0.0051246853, −0.3535533906, 0.0192190313, −0.0052377969, 0.3535533906, 0.0375091248, −0.0147186202, −0.0073640977)

0.9238795325: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (−0.2500000000, 0.2500000000, −0.1352990250, −0.0000000000, 0.2500000000, 0.3266407412, −0.1516767380, 0.3266407412, −0.1400194030, −0.2500000000, −0.3335125824, −0.3535145902, 0.1352990250, −0.3104431702, 0.2601909045, 0.2447385608)

0.7071067812: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (−0.2500000000, 0.2500000000, −0.1352990250, 0.0000000000, 0.2500000000, 0.3266407412, 0.1185736886, 0.3266407412, 0.1305502193, −0.2500000000, 0.3188029726, 0.3535145902, 0.1352990250, 0.3391514115, −0.2393756321, −0.2551529676)

0.7071067812: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (−0.2500000000, 0.2500000000, 0.1352990250, −0.0000000000, 0.2500000000, −0.3266407412, 0.1516767380, −0.3266407412, 0.1400194030, −0.2500000000, 0.3335125824, −0.3535145902, −0.1352990250, 0.3104431702, 0.2601909045, 0.2447385608)

0.3826834324: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (0.2500000000, 0.3535533906, −0.0000000000, −0.3535533906, 0.2500000000, −0.0000000000, −0.3530991987, 0.0000000000, 0.3535162480, 0.3535533906, 0.3530306344, −0.0052377969, 0.0000000000, −0.3515580543, 0.0147186202, 0.0073640977)

7

0.3826834324: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (−0.2500000000, −0.2500000000, −0.3266407412, 0.0000000000, 0.2500000000, −0.1352990250, 0.3330769886, −0.1352990250, 0.3285675581, 0.2500000000, −0.1528550446, 0.3535145902, 0.3266407412, −0.0998815302, 0.2393756321, 0.2551529676)

0.0000000000: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- (−0.2500000000, −0.2500000000, 0.3266407412, −0.0000000000, 0.2500000000, 0.1352990250, 0.3193652566, 0.1352990250, 0.3246452938, 0.2500000000, −0.1173429052, −0.3535145902, −0.3266407412, −0.1691893556, −0.2601909045, −0.2447385608)

−0.0000000000: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (−0.2500000000, −0.2500000000, −0.3266407412, −0.0000000000, 0.2500000000, −0.1352990250, −0.3193652566, −0.1352990250, −0.3246452938, 0.2500000000, 0.1173429052, −0.3535145902, 0.3266407412, 0.1691893556, −0.2601909045, −0.2447385608)

−0.3826834324: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (0.2500000000, 0.0000000000, 0.2500000000, 0.3535533906, 0.2500000000, 0.2500000000, 0.2370108493, −0.2500000000, −0.2463500365, −0.0000000000, 0.2632202630, 0.0052377969, 0.2500000000, −0.2220661277, 0.3532468856, −0.3534766896)

−0.3826834324: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (0.2500000000, 0.0000000000, −0.2500000000, 0.3535533906, 0.2500000000, −0.2500000000, −0.2370108493, 0.2500000000, 0.2463500365, 0.0000000000, −0.2632202630, 0.0052377969, −0.2500000000, 0.2220661277, 0.3532468856, −0.3534766896)

−0.7071067812: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (−0.2500000000, 0.2500000000, 0.1352990250, −0.0000000000, 0.2500000000, −0.3266407412, −0.1185736886, −0.3266407412, −0.1305502193, −0.2500000000, −0.3188029726, 0.3535145902, −0.1352990250, −0.3391514115, −0.2393756321, −0.2551529676)

−0.7071067812: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (0.2500000000, 0.0000000000, 0.2500000000, 0.3535533906, 0.2500000000, 0.2500000000, −0.2623468264, −0.2500000000, 0.2535974359, 0.0000000000, −0.2360404482, 0.0052377969, 0.2500000000, 0.2751120407, −0.3532468856, 0.3534766896)

−0.9238795325: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (−0.2500000000, −0.2500000000, 0.3266407412, −0.0000000000, 0.2500000000, 0.1352990250, −0.3330769886, 0.1352990250, −0.3285675581, 0.2500000000, 0.1528550446, 0.3535145902, −0.3266407412, 0.0998815302, 0.2393756321, 0.2551529676)

−0.9238795325: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (0.2500000000, 0.0000000000, −0.2500000000, 0.3535533906, 0.2500000000, −0.2500000000, 0.2623468264, 0.2500000000, −0.2535974359, −0.0000000000, 0.2360404482, 0.0052377969, −0.2500000000, −0.2751120407, −0.3532468856, 0.3534766896)

−1.0000000000: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- (0.2500000000, −0.3535533906, −0.3535533906, −0.3535533906, 0.2500000000, 0.3535533906, −0.0179152412, −0.3535533906, 0.0051246853, −0.3535533906, −0.0192190313, −0.0052377969, −0.3535533906, −0.0375091248, −0.0147186202, −0.0073640977)

3. Szimulációs mátrix

3.1. 0. szimuláció mátrixa
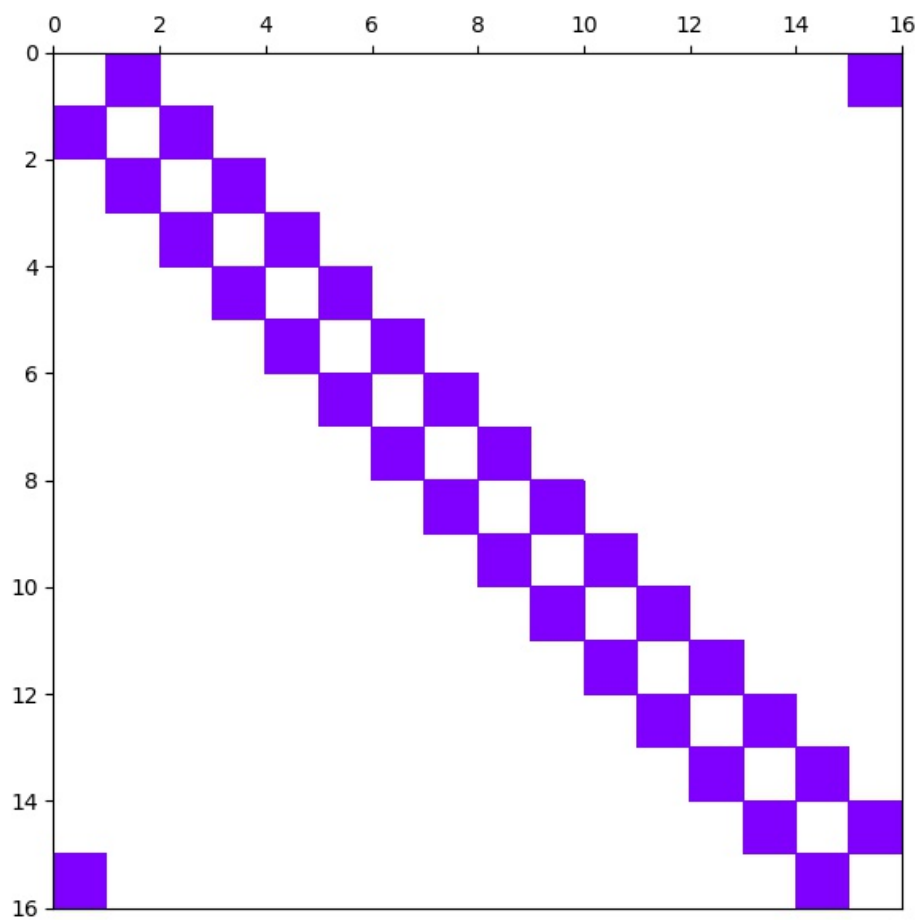
9. ábra. 0. szimuláció mátrixa

3.2. Kvantum szimuláció (Hadamard érme)

Kezdőcsúcs: 8 Bolyongók: 1 Lépésszám: 100
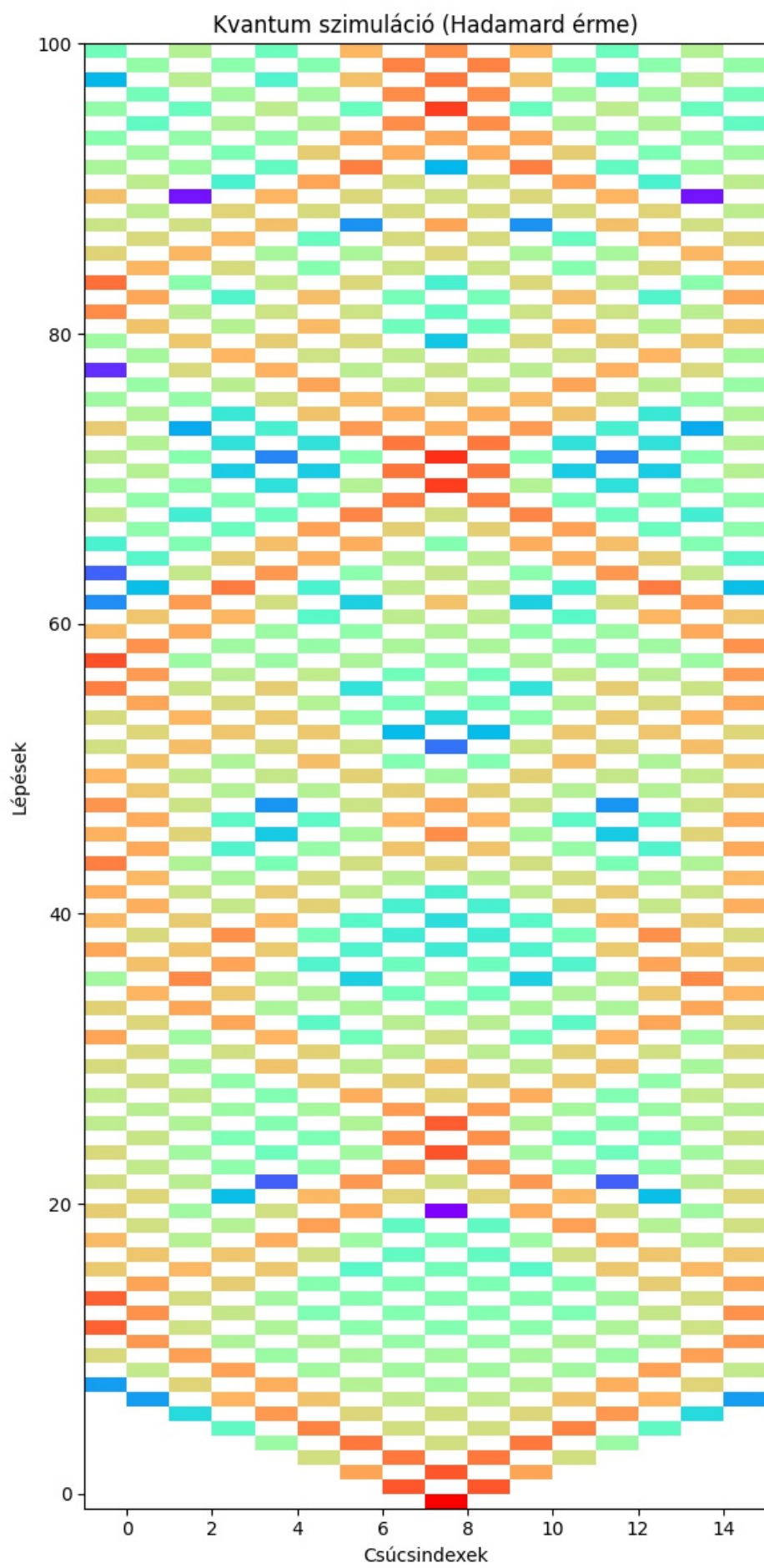
10. ábra. 1. szimuláció
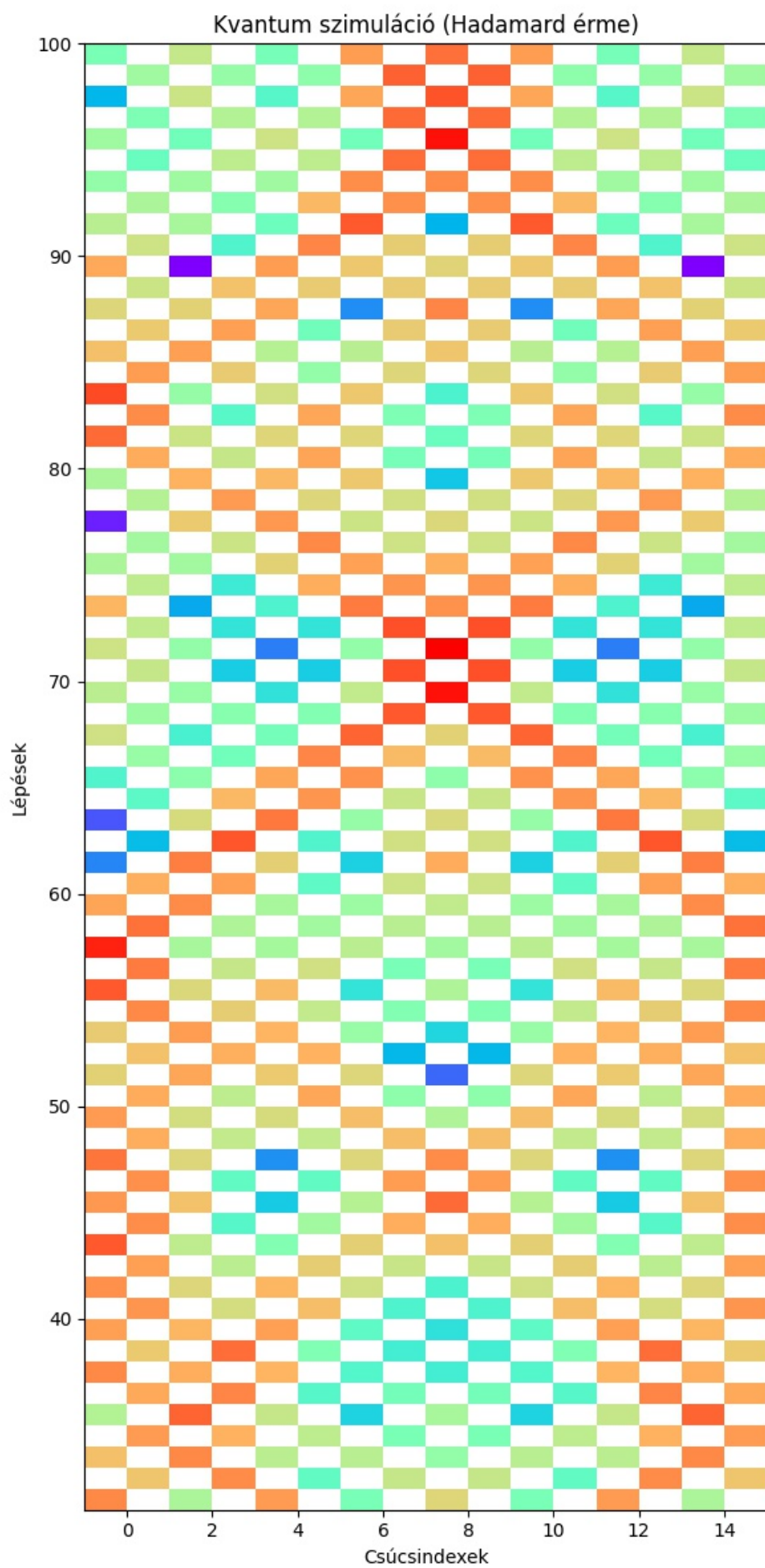
11. ábra. 1. szimuláció levágva az elejét
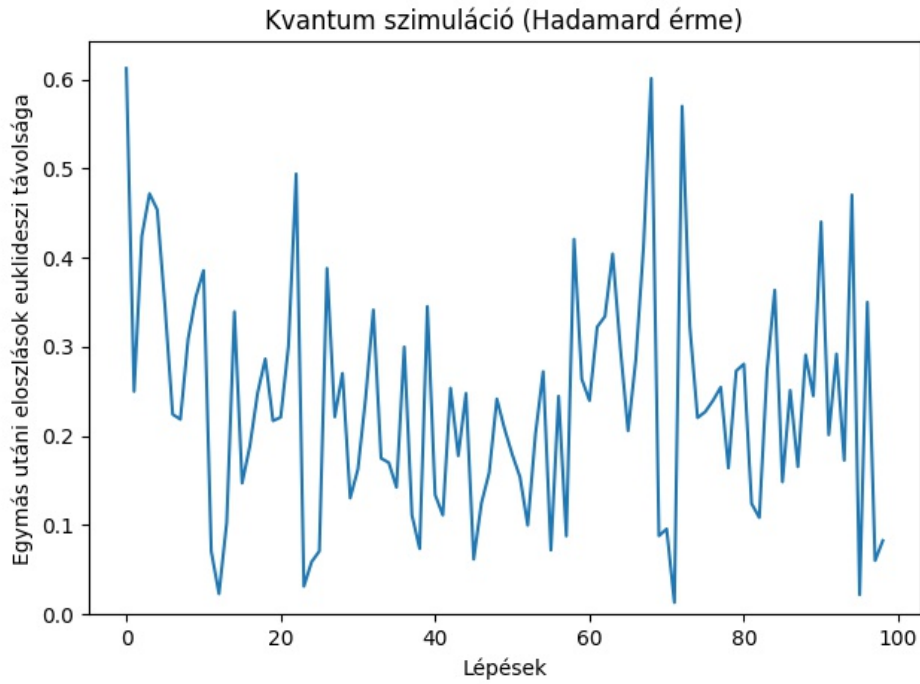
12. ábra. 1. szimuláció mixing time
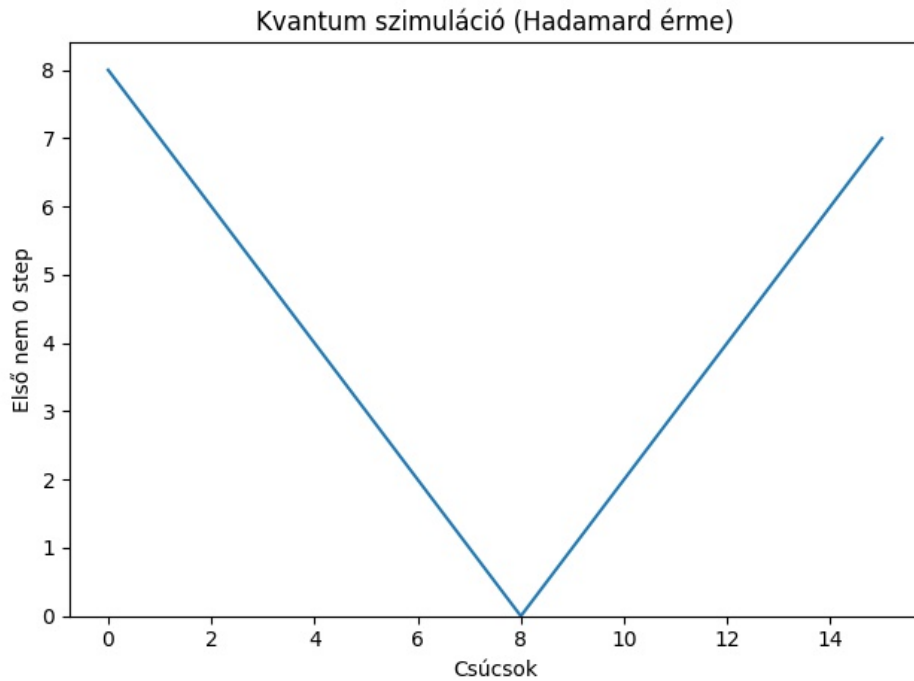
13. ábra. 1. szimuláció hitting time

3.3. Sajátértékek, sajátvektorok

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: $17768559149047074.0000000000$

- $\big(0.1767766953 - 0.0000000000j,\ 0.0000000000 + 0.1767766953j,\ -0.0000000000 - 0.1767766953j,\ 0.1767766953 + 0.0000000000j,\ -0.1700157872 - 0.0088474664j,\ 0.0039990029 + 0.0006761332j,\ 0.1896551147 - 0.0580647652j,\ -0.2499619801 - 0.0000000000j,\ -0.1334020124 - 0.0003114142j,\ -0.1657592949 - 0.1249095938j,\ -0.1737176939 - 0.0000063067j,\ 0.1754037170 - 0.0001691260j,\ 0.1650833652 - 0.0000119234j,\ 0.1611250166 + 0.0708982298j,\ -0.1320351843 - 0.0031325753j,\ -0.1798210820 + 0.1288602251j,\ -0.0105175283 - 0.0077237287j,\ -0.2497089803 + 0.0000000000j,\ -0.1659676846 - 0.0037892933j,\ -0.1742706005 - 0.0669448544j,\ 0.1650994077 + 0.0000004395j,\ -0.0006573773 + 0.0002599227j,\ -0.2498576724 + 0.0000000000j,\ 0.1270070342 - 0.0019287652j,\ -0.1727572318 +$

$0.0717544773j, -0.1693986492 + 0.0644890575j, 0.1728404579 + 0.0019964059j, -0.1878507125 + 0.0072949554j,$
$0.1364767853 + 0.0042206218j, 0.1781100870 + 0.1080663940j, -0.0013806214 + 0.0009468742j, -0.2492949285 +$
$0.0000000000j$)

$1.0000000000 - 0.0000000000j$: Bezárt szög: -0.0000000000 360 / bezárt szög: $-3662917487370 4808.0000000000$

- $($ $-0.0000000000 + 0.1767766953j, 0.1767766953 - 0.0000000000j, -0.1767766953 + 0.0000000000j, -0.0000000000 +$
  $0.1767766953j, -0.0708578407 - 0.0976915585j, -0.1024390067 + 0.1790622565j, 0.0039509343 + 0.2251826481j,$
  $0.0018590447 - 0.1473514523j, -0.0643371647 - 0.2299064047j, 0.0148165646 + 0.0856012476j, -0.1797836554 +$
  $0.0000063067j, -0.1781389313 - 0.0001691260j, 0.0825438746 - 0.0956478282j, -0.0027061140 - 0.2020349342j,$
  $-0.0636504684 + 0.2309092160j, 0.0146737713 - 0.0591083429j, -0.1063822462 - 0.1704634289j, -0.0040995866 +$
  $0.1352172576j, -0.0862834433 + 0.0980926072j, -0.0009744396 + 0.2123260600j, 0.0825500975 + 0.0956696275j,$
  $-0.1019115982 - 0.1763964516j, 0.0067050465 + 0.1426833350j, 0.0659596963 - 0.2313517811j, -0.0769897226 -$
  $0.0775087221j, 0.0028077996 - 0.2106417991j, 0.1806051074 - 0.0019964059j, 0.1646380183 + 0.0072949554j,$
  $0.0647844227 + 0.2282012199j, 0.0213245488 - 0.0720694570j, -0.1026064623 + 0.1759756295j, 0.0097763305 -$
  $0.1557252295j$)

$0.9626924199 - 0.2705980501j$: Bezárt szög: -15.6998574050 360 / bezárt szög: -22.9301445685

- $($ $-0.1767766953 + 0.0000000000j, 0.0000000000 + 0.1767766953j, 0.0000000000 + 0.1767766953j, 0.1767766953 +$
  $0.0000000000j, 0.1781690153 - 0.0542322434j, -0.0032651722 - 0.1448706326j, -0.1808475693 - 0.0000341032j,$
  $0.2040280044 + 0.0025163337j, 0.1786565386 + 0.1188795793j, 0.1102720185 - 0.0021234145j, 0.2499632012 +$
  $0.0000000000j, 0.0019340886 + 0.0002391802j, -0.1767590683 - 0.0631763465j, -0.1453885980 - 0.0029744828j,$
  $0.1767915511 - 0.1176107300j, 0.1257665689 - 0.0158823735j, 0.0085875259 + 0.1504472154j, 0.2032318902 +$
  $0.0069315581j, -0.1786079262 - 0.0660384885j, -0.1609767613 - 0.0031211910j, 0.1767757534 - 0.0631811093j,$
  $-0.0005367463 - 0.1441247643j, -0.1993461426 + 0.0014079061j, 0.1759938359 - 0.1218776267j, -0.1689083027 -$
  $0.0517040769j, -0.1567000464 - 0.0012895742j, 0.2499237560 - 0.0000000000j, -0.0164138534 + 0.0103166249j,$
  $0.1814757992 + 0.1197060043j, 0.1426481251 - 0.0136561023j, -0.0011272727 + 0.1451074505j, -0.2017317701 -$
  $0.0106792257j$)

$0.9626924199 - 0.2705980501j$: Bezárt szög: -15.6998574050 360 / bezárt szög: -22.9301445685

- $($ $0.0000000000 + 0.1767766953j, -0.1767766953 + 0.0000000000j, -0.1767766953 + 0.0000000000j, 0.0000000000 -$
  $0.1767766953j, 0.0043032847 - 0.2207795305j, 0.0011544877 - 0.1412148199j, 0.0758652718 + 0.1130131266j,$
  $-0.1021116487 - 0.1742334774j, -0.0028448153 + 0.0674048637j, -0.0676005850 - 0.2356152512j, 0.0042892824 -$
  $0.0000089190j, 0.2499924041 + 0.0000000000j, -0.0000116154 - 0.2157062555j, 0.0926330013 - 0.0759222601j,$
  $-0.0041668886 - 0.0713479055j, -0.0697386513 + 0.2283692737j, -0.0097552639 + 0.1484246338j, -0.1025979028 +$
  $0.1835024714j, 0.0025982537 - 0.2153153538j, 0.0874676675 - 0.0924468720j, 0.0000005137 - 0.2157135435j,$
  $0.0000845801 - 0.1449079393j, 0.1066657602 - 0.1752681485j, 0.0038178758 - 0.0706482164j, 0.0388332433 -$
  $0.2155057324j, 0.0842590141 + 0.0861644877j, 0.0054904363 - 0.0028233443j, 0.2492471718 - 0.0000000000j,$
  $-0.0027157234 + 0.0617324228j, -0.0584851110 - 0.2289431632j, 0.0012331775 + 0.1449240180j, 0.1035909150 +$
  $0.1655989088j$)

$0.9626924199 + 0.2705980501j$: Bezárt szög: 15.6998574050 360 / bezárt szög: 22.9301445685

- $($ $-0.1767766953 + 0.0000000000j, -0.0000000000 - 0.1767766953j, 0.0000000000 + 0.1767766953j, -0.1767766953 -$
  $0.0000000000j, 0.0025070404 + 0.0134082402j, -0.2037069164 - 0.0023088254j, -0.2490469209 + 0.0000000000j,$
  $0.0035586333 + 0.1444076785j, -0.0036674736 + 0.0020483354j, -0.2489918541 - 0.0000000000j, -0.1737176939 -$
  $0.0000063067j, 0.1754037170 - 0.0001691260j, 0.0000266897 + 0.0000073232j, -0.2487041561 - 0.0000000000j,$
  $-0.0000834413 - 0.0044867536j, -0.2492706060 + 0.0000000000j, -0.1993866018 - 0.0060722978j, -0.0098027034 -$
  $0.1450953456j, 0.0028305382 + 0.0043472166j, 0.2499069014 + 0.0000000000j, 0.0000014262 - 0.0000001118j,$
  $-0.2042733957 - 0.0003795370j, 0.0019910798 - 0.1508481648j, -0.0014637678 - 0.0037209963j, -0.2364993352 -$
  $0.0000000000j, 0.2497533032 + 0.0000000000j, 0.1728404579 + 0.0019964059j, -0.1878507125 + 0.0072949554j,$
  $0.0092825846 - 0.0003302859j, 0.2490011246 + 0.0000000000j, -0.2035728903 + 0.0007971022j, 0.0151027058 +$
  $0.1464996769j$)

$0.9626924199 + 0.2705980501j$: Bezárt szög: 15.6998574050 360 / bezárt szög: 22.9301445685

- $($ $0.1767766953 + 0.0000000000j, -0.0000000000 - 0.1767766953j, -0.0000000000 - 0.1767766953j, -0.1767766953 -$
  $0.0000000000j, -0.0023414475 + 0.0766959741j, 0.2499670995 + 0.0000000000j, 0.2352357099 - 0.0073344779j,$
  $-0.0043584179 - 0.0001127525j, 0.0026937944 + 0.1681211134j, 0.1757883770 - 0.0134635220j, 0.2499632012 +$
  $0.0000000000j, 0.0019340886 + 0.0002391802j, -0.0000249268 + 0.0893448461j, 0.2279232831 - 0.0079747295j,$
  $0.0000612884 - 0.1663266894j, 0.1710061360 - 0.0046515551j, 0.2496592190 + 0.0000000000j, 0.0120058107 +$

$0.0011338670j$, $0.0026435779 + 0.0933925260j$, $0.2313506408 - 0.0013206614j$, $0.0000013320 + 0.0893515817j$, $-0.2499990006 - 0.0000000000j$, $0.0024385648 - 0.0080744617j$, $-0.0010751514 - 0.1723609927j$, $-0.2282309103 + 0.0072213057j$, $0.2325152474 + 0.0038985630j$, $0.2499237560 - 0.0000000000j$, $-0.0164138534 + 0.0103166249j$, $0.0068181471 + 0.1692898548j$, $0.1978076994 + 0.0026650007j$, $-0.2499943946 + 0.0000000000j$, $0.0184969615 + 0.0031465935j$)

$0.8660254038 + 0.5000000000j$: Bezárt szög: 30.0000000000 360 / bezárt szög: 12.0000000000

- ($0.0000000000 + 0.1767766953j$, $-0.1767766953 + 0.0000000000j$, $-0.1767766953 - 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $0.0127304957 + 0.0887362748j$, $-0.0011544877 + 0.1412148199j$, $-0.0314244245 + 0.2227548749j$, $0.1021116487 + 0.1742334774j$, $-0.0015154333 + 0.1723133065j$, $-0.1632022492 + 0.0818215353j$, $0.0042892824 - 0.0000089190j$, $0.2499924041 + 0.0000000000j$, $-0.0000031153 + 0.0893773452j$, $-0.0383698455 - 0.2377474089j$, $0.0016646933 - 0.1724671237j$, $-0.1683639977 - 0.1000432862j$, $0.0097552639 - 0.1484246338j$, $0.1025979028 - 0.1835024714j$, $0.0036291614 + 0.0861227872j$, $-0.0362302941 - 0.2322045327j$, $-0.0000000918 + 0.0893530190j$, $-0.0000845801 + 0.1449079393j$, $-0.1066657602 + 0.1752681485j$, $-0.0005062645 - 0.1667348726j$, $0.0937517426 + 0.0977256831j$, $-0.0349012264 + 0.2346405279j$, $0.0054904363 - 0.0028233443j$, $0.2492471718 - 0.0000000000j$, $-0.0056932576 + 0.1732918147j$, $-0.1411955482 + 0.0979536058j$, $-0.0012331775 - 0.1449240180j$, $-0.1035909150 - 0.1655989088j$)

$0.8660254038 + 0.5000000000j$: Bezárt szög: 30.0000000000 360 / bezárt szög: 12.0000000000

- ($0.0000000000 - 0.1767766953j$, $-0.1767766953 + 0.0000000000j$, $0.1767766953 + 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $0.0708578407 - 0.0933651277j$, $-0.1024390067 - 0.1744446057j$, $-0.0096014138 - 0.2094762674j$, $0.0016995886 - 0.1411877186j$, $0.0643371647 - 0.2319681457j$, $0.0045120309 - 0.0489413514j$, $-0.1797836554 + 0.0000063067j$, $-0.1781389313 - 0.0001691260j$, $-0.0825438746 - 0.0956938869j$, $0.0120292646 + 0.2191123782j$, $0.0636504684 + 0.2309561242j$, $0.0182339175 + 0.0717740873j$, $-0.1063822462 + 0.1826080245j$, $-0.0057031168 + 0.1521960379j$, $0.0862834433 + 0.0932079122j$, $-0.0034147037 - 0.2151541838j$, $-0.0825500975 + 0.0956720887j$, $-0.1019115982 + 0.1771555256j$, $-0.0047139667 + 0.1392346835j$, $-0.0659596963 - 0.2305288958j$, $-0.0714627745 + 0.0971716541j$, $-0.0043958055 + 0.2189903571j$, $0.1806051074 - 0.0019964059j$, $0.1646380183 + 0.0072949554j$, $-0.0647844227 + 0.2334196037j$, $0.0192848456 + 0.0793260017j$, $-0.1026064623 - 0.1775698338j$, $0.0053263753 - 0.1295665758j$)

$0.8660254038 - 0.5000000000j$: Bezárt szög: -30.0000000000 360 / bezárt szög: -12.0000000000

- ($-0.0000000000 - 0.1767766953j$, $-0.1767766953 - 0.0000000000j$, $0.1767766953 - 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $0.0293502786 + 0.2315218546j$, $0.1024390067 + 0.1744446057j$, $0.0040139488 - 0.1089800876j$, $-0.0016995886 + 0.1411877186j$, $-0.1553236556 - 0.0931686099j$, $0.0164417556 + 0.1699997967j$, $-0.1797836554 + 0.0000063067j$, $-0.1781389313 - 0.0001691260j$, $-0.0341907924 + 0.2309603426j$, $-0.0082022415 + 0.0666081657j$, $-0.1536658240 + 0.0955988208j$, $0.0025179289 - 0.1553659074j$, $0.1063822462 - 0.1826080245j$, $0.0057031168 - 0.1521960379j$, $0.0357397724 - 0.2319318076j$, $0.0047927694 - 0.0851202099j$, $-0.0341933700 - 0.2309693734j$, $0.1019115982 - 0.1771555256j$, $0.0047139667 - 0.1392346835j$, $0.1592407933 - 0.0966519307j$, $-0.0374171354 - 0.2067855401j$, $0.0004249772 + 0.0789021320j$, $0.1806051074 - 0.0019964059j$, $0.1646380183 + 0.0072949554j$, $0.1564034319 + 0.0893056564j$, $0.0108726206 - 0.1812476053j$, $0.1026064623 + 0.1775698338j$, $-0.0053263753 + 0.1295665758j$)

$0.8660254038 - 0.5000000000j$: Bezárt szög: -30.0000000000 360 / bezárt szög: -12.0000000000

- ($-0.1767766953 + 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $0.0000000000 + 0.1767766953j$, $-0.1767766953 - 0.0000000000j$, $0.2379315917 - 0.0008960331j$, $0.2037069164 + 0.0023088254j$, $-0.0191659145 + 0.0821159785j$, $-0.0035586333 - 0.1444076785j$, $-0.1849914616 - 0.0024887415j$, $0.0145728112 - 0.1766488416j$, $-0.1737176939 - 0.0000063067j$, $0.1754037170 - 0.0001691260j$, $-0.2334898237 + 0.0000095391j$, $0.0208389723 - 0.1002652381j$, $-0.1866425070 + 0.0000566231j$, $-0.0050348070 + 0.1822358779j$, $0.1993866018 + 0.0060722978j$, $0.0098027034 + 0.1450953456j$, $0.2318832123 + 0.0010116535j$, $-0.0034510547 + 0.0946743210j$, $-0.2334872477 - 0.0000005097j$, $0.2042733957 + 0.0003795370j$, $-0.0019910798 + 0.1508481648j$, $0.1810788381 + 0.0009933104j$, $-0.0078162850 + 0.1014761549j$, $-0.0101874360 - 0.0912012997j$, $0.1728404579 + 0.0019964059j$, $-0.1878507125 + 0.0072949554j$, $0.1837247362 + 0.0062991465j$, $0.0028845760 + 0.1528289601j$, $0.2035728903 - 0.0007971022j$, $-0.0151027058 - 0.1464996769j$)

$0.7571151198 - 0.6532814824j$: Bezárt szög: -40.7894709409 360 / bezárt szög: -8.8258070452

- ($-0.0000000000 - 0.1767766953j$, $0.1767766953 - 0.0000000000j$, $0.1767766953 - 0.0000000000j$, $-0.0000000000 + 0.1767766953j$, $-0.0120447016 + 0.0933686815j$, $0.0021106845 - 0.1468702640j$, $-0.0314244245 - 0.2374238308j$, $-0.1021116487 + 0.1792661449j$, $-0.0030831614 + 0.1695063437j$, $-0.1632022492 - 0.1087485794j$, $0.0042892824 -$

$0.0000089190j, 0.2499924041 + 0.0000000000j, 0.0000104162 + 0.0893280291j, -0.0383698455 + 0.2217979500j,$
$-0.0017693192-0.1724032605j, -0.1683639977+0.0907401760j, 0.0011677380+0.1335506026j, -0.1025979028-$
$0.1696393553j, -0.0044034474+0.0913529399j, -0.0362302941+0.2295632098j, -0.0000002984+0.0893503837j,$
$0.0004521663 - 0.1439782673j, 0.1066657602 + 0.1780839606j, 0.0023416628 - 0.1678551919j, 0.0937517426 -$
$0.0832830716j, -0.0349012264 - 0.2268434020j, 0.0054904363 - 0.0028233443j, 0.2492471718 - 0.0000000000j,$
$-0.0059460475+0.1661872321j, -0.1411955482-0.0926236043j, -0.0001059048+0.1429715245j, 0.1035909150-$
$0.1869573601j$)

$0.7571151198 + 0.6532814824j$: Bezárt szög: 40.7894709409 360 / bezárt szög: 8.8258070452

- ($0.1767766953 - 0.0000000000j, 0.0000000000 + 0.1767766953j, 0.0000000000 - 0.1767766953j, 0.1767766953 +$
$0.0000000000j, 0.1664702966 - 0.0101146487j, -0.0039990029 - 0.0006761332j, 0.1625504185 + 0.0580647652j,$
$0.2499619801+0.0000000000j, 0.1282154215+0.0032081978j, -0.1863683622+0.1249095938j, -0.1737176939-$
$0.0000063067j, 0.1754037170 - 0.0001691260j, -0.1651211101 + 0.0000015669j, 0.1905957739 - 0.0708982298j,$
$0.1319171805 - 0.0032126525j, -0.1727007897 - 0.1288602251j, 0.0105175283 + 0.0077237287j, 0.2497089803 +$
$0.0000000000j, 0.1619646990 - 0.0023585993j, -0.1791511288 + 0.0669448544j, -0.1651014247 - 0.0000002814j,$
$0.0006573773 - 0.0002599227j, 0.2498576724 - 0.0000000000j, -0.1290771145 - 0.0033335183j, -0.1617033355 -$
$0.0717544773j, -0.1838058594 - 0.0644890575j, 0.1728404579 + 0.0019964059j, -0.1878507125 + 0.0072949554j,$
$-0.1233492283 - 0.0046877166j, 0.1740306805 - 0.1080663940j, 0.0013806214 - 0.0009468742j, 0.2492949285 +$
$0.0000000000j$)

$0.7571151198 - 0.6532814824j$: Bezárt szög: -40.7894709409 360 / bezárt szög: -8.8258070452

- ($-0.1767766953-0.0000000000j, 0.0000000000+0.1767766953j, -0.0000000000+0.1767766953j, 0.1767766953+$
$0.0000000000j, -0.1748577085 - 0.0542322434j, 0.0032651722 + 0.1448706326j, -0.1518259620 + 0.0104066214j,$
$-0.2040280044 - 0.0025163337j, -0.1748469380 + 0.1188795793j, 0.1383302884 - 0.0169168810j, 0.2499632012 -$
$0.0000000000j, 0.0019340886 + 0.0002391802j, 0.1767943201 - 0.0631763465j, -0.1769436001 + 0.0142524533j,$
$-0.1767048762-0.1176107300j, 0.1160726279+0.0093040811j, -0.0085875259-0.1504472154j, -0.2032318902-$
$0.0069315581j, 0.1748693425 - 0.0660384885j, -0.1662024526 + 0.0049888883j, -0.1767776372 - 0.0631811093j,$
$0.0005367463+0.1441247643j, 0.1993461426-0.0014079061j, -0.1775143297-0.1218776267j, -0.1538589460+$
$0.0619165454j, -0.1721261700 - 0.0042238264j, 0.2499237560 - 0.0000000000j, -0.0164138534 + 0.0103166249j,$
$-0.1718334832 + 0.1197060043j, 0.1370942062 + 0.0174249825j, 0.0011272727 - 0.1451074505j, 0.2017317701 +$
$0.0106792257j$)

$0.7571151198 + 0.6532814824j$: Bezárt szög: 40.7894709409 360 / bezárt szög: 8.8258070452

- ($-0.0000000000+0.1767766953j, 0.1767766953-0.0000000000j, -0.1767766953-0.0000000000j, -0.0000000000+$
$0.1767766953j, -0.0293502786 + 0.2297297883j, 0.1024390067 - 0.1790622565j, 0.0096275152 + 0.0710615302j,$
$-0.0018590447+0.1473514523j, 0.1553236556-0.0981460930j, -0.0084355893-0.1548147705j, -0.1797836554+$
$0.0000063067j, -0.1781389313 - 0.0001691260j, 0.0341907924 + 0.2309794208j, -0.0143058352 - 0.1078367628j,$
$0.1536658240 + 0.0957120671j, 0.0111128821 + 0.1606122305j, 0.1063822462 + 0.1704634289j, 0.0040995866 -$
$0.1352172576j, -0.0357397724 - 0.2299085007j, 0.0058035599 + 0.0919479047j, 0.0341933700 - 0.2309703929j,$
$0.1019115982+0.1763964516j, -0.0067050465-0.1426833350j, -0.1592407933-0.0946653099j, -0.0240739023+$
$0.2149301933j, 0.0034088081 - 0.0990573339j, 0.1806051074 - 0.0019964059j, 0.1646380183 + 0.0072949554j,$
$-0.1564034319+0.1019039494j, 0.0059483413+0.1842533645j, 0.1026064623-0.1759756295j, -0.0097763305+$
$0.1557252295j$)

$0.7071067812 - 0.7071067812j$: Bezárt szög: -45.0000000000 360 / bezárt szög: -8.0000000000

- ($0.1767766953 - 0.0000000000j, 0.0000000000 + 0.1767766953j, 0.0000000000 - 0.1767766953j, 0.1767766953 +$
$0.0000000000j, -0.1664702966+0.0101146487j, -0.0039990029-0.0006761332j, -0.1625504185-0.0580647652j,$
$0.2499619801+0.0000000000j, -0.1282154215-0.0032081978j, 0.1863683622-0.1249095938j, -0.1737176939-$
$0.0000063067j, 0.1754037170 - 0.0001691260j, 0.1651211101 - 0.0000015669j, -0.1905957739 + 0.0708982298j,$
$-0.1319171805 + 0.0032126525j, 0.1727007897 + 0.1288602251j, 0.0105175283 + 0.0077237287j, 0.2497089803 -$
$0.0000000000j, -0.1619646990 + 0.0023585993j, 0.1791511288 - 0.0669448544j, 0.1651014247 + 0.0000002814j,$
$0.0006573773 - 0.0002599227j, 0.2498576724 + 0.0000000000j, 0.1290771145 + 0.0033335183j, 0.1617033355 +$
$0.0717544773j, 0.1838058594 + 0.0644890575j, 0.1728404579 + 0.0019964059j, -0.1878507125 + 0.0072949554j,$
$0.1233492283 + 0.0046877166j, -0.1740306805 + 0.1080663940j, 0.0013806214 - 0.0009468742j, 0.2492949285 +$
$0.0000000000j$)

$0.7071067812 + 0.7071067812j$: Bezárt szög: 45.0000000000 360 / bezárt szög: 8.0000000000

- ($-0.0000000000-0.1767766953j, 0.1767766953+0.0000000000j, 0.1767766953-0.0000000000j, -0.0000000000+$
$0.1767766953j, 0.0059589381+0.2188607248j, -0.0021106845+0.1468702640j, -0.0758652718+0.0775991344j,$

$0.1021116487 - 0.1792661449j$, $-0.0009400150 - 0.0741814713j$, $0.0676005850 - 0.2244617044j$, $0.0042892824 - 0.0000089190j$, $0.2499924041 - 0.0000000000j$, $0.0000060105 + 0.2157266829j$, $-0.0926330013 - 0.1144276601j$, $-0.0041235511 + 0.0715020849j$, $0.0697386513 + 0.2322227481j$, $-0.0011677380 - 0.1335506026j$, $0.1025979028 + 0.1696393553j$, $0.0007289618 + 0.2131489537j$, $-0.0874676675 - 0.0988235896j$, $-0.0000004282 + 0.2157146351j$, $-0.0004521663 + 0.1439782673j$, $-0.1066657602 - 0.1780839606j$, $0.0030576289 + 0.0679435261j$, $-0.0388332433 - 0.2214880580j$, $-0.0842590141 + 0.1049884149j$, $0.0054904363 - 0.0028233443j$, $0.2492471718 + 0.0000000000j$, $0.0021054347 - 0.0788844025j$, $0.0584851110 - 0.2311509221j$, $0.0001059048 - 0.1429715245j$, $-0.1035909150 + 0.1869573601j$)

$-0.7071067812 - 0.7071067812j$: Bezárt szög: -135.0000000000 360 / bezárt szög: -2.6666666667

- ($0.0000000000 + 0.1767766953j$, $0.1767766953 + 0.0000000000j$, $-0.1767766953 + 0.0000000000j$, $-0.0000000000 + 0.1767766953j$, $0.0293502786 - 0.2297297883j$, $0.1024390067 - 0.1790622565j$, $-0.0096275152 - 0.0710615302j$, $-0.0018590447 + 0.1473514523j$, $-0.1553236556 + 0.0981460930j$, $0.0084355893 + 0.1548147705j$, $-0.1797836554 + 0.0000063067j$, $-0.1781389313 - 0.0001691260j$, $-0.0341907924 - 0.2309794208j$, $0.0143058352 + 0.1078367628j$, $-0.1536658240 - 0.0957120671j$, $-0.0111128821 - 0.1606122305j$, $0.1063822462 + 0.1704634289j$, $0.0040995866 - 0.1352172576j$, $0.0357397724 + 0.2299085007j$, $-0.0058035599 - 0.0919479047j$, $-0.0341933700 + 0.2309703929j$, $0.1019115982 + 0.1763964516j$, $-0.0067050465 - 0.1426833350j$, $0.1592407933 + 0.0946653099j$, $0.0240739023 - 0.2149301933j$, $-0.0034088081 + 0.0990573339j$, $0.1806051074 - 0.0019964059j$, $0.1646380183 + 0.0072949554j$, $0.1564034319 - 0.1019039494j$, $-0.0059483413 - 0.1842533645j$, $0.1026064623 - 0.1759756295j$, $-0.0097763305 + 0.1557252295j$)

$-0.7071067812 + 0.7071067812j$: Bezárt szög: 135.0000000000 360 / bezárt szög: 2.6666666667

- ($0.1767766953 - 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $-0.0000000000 - 0.1767766953j$, $-0.1767766953 - 0.0000000000j$, $-0.2496275903 + 0.0000000000j$, $-0.2499670995 + 0.0000000000j$, $0.0205213753 + 0.0073827071j$, $0.0043584179 + 0.0001127525j$, $0.2499647054 + 0.0000000000j$, $-0.0198401929 + 0.0104605605j$, $0.2499632012 + 0.0000000000j$, $0.0019340886 + 0.0002391802j$, $0.2499999985 + 0.0000000000j$, $-0.0223127559 + 0.0121812833j$, $0.2499597209 + 0.0000000000j$, $0.0068546515 - 0.0178095129j$, $-0.2496592190 - 0.0000000000j$, $-0.0120058107 - 0.0011338670j$, $0.2499461737 + 0.0000000000j$, $-0.0036951218 + 0.0057346921j$, $-0.2500000000 - 0.0000000000j$, $0.2499990006 + 0.0000000000j$, $-0.0024385648 + 0.0080744617j$, $0.2499680211 + 0.0000000000j$, $-0.0106415021 - 0.0803419125j$, $-0.0109079166 - 0.0020748296j$, $0.2499237560 - 0.0000000000j$, $-0.0164138534 + 0.0103166249j$, $0.2498273895 + 0.0000000000j$, $0.0039272137 - 0.0219776459j$, $0.2499943946 - 0.0000000000j$, $-0.0184969615 - 0.0031465935j$)

$-0.7571151198 - 0.6532814824j$: Bezárt szög: -139.2105290591 360 / bezárt szög: -2.5860112912

- ($-0.1767766953 + 0.0000000000j$, $0.0000000000 + 0.1767766953j$, $-0.0000000000 + 0.1767766953j$, $0.1767766953 + 0.0000000000j$, $-0.1781690153 + 0.0542322434j$, $-0.0032651722 - 0.1448706326j$, $0.1808475693 + 0.0000341032j$, $0.2040280044 + 0.0025163337j$, $-0.1786565386 - 0.1188795793j$, $-0.1102720185 + 0.0021234145j$, $0.2499632012 + 0.0000000000j$, $0.0019340886 + 0.0002391802j$, $0.1767590683 + 0.0631763465j$, $0.1453885980 + 0.0029744828j$, $-0.1767915511 + 0.1176107300j$, $-0.1257665689 + 0.0158823735j$, $0.0085875259 + 0.1504472154j$, $0.2032318902 + 0.0069315581j$, $0.1786079262 + 0.0660384885j$, $0.1609767613 + 0.0031211910j$, $-0.1767757534 + 0.0631811093j$, $-0.0005367463 - 0.1441247643j$, $-0.1993461426 + 0.0014079061j$, $-0.1759938359 + 0.1218776267j$, $0.1689083027 + 0.0517040769j$, $0.1567000464 + 0.0012895742j$, $0.2499237560 - 0.0000000000j$, $-0.0164138534 + 0.0103166249j$, $-0.1814757992 - 0.1197060043j$, $-0.1426481251 + 0.0136561023j$, $-0.0011272727 + 0.1451074505j$, $-0.2017317701 - 0.0106792257j$)

$-0.7571151198 + 0.6532814824j$: Bezárt szög: 139.2105290591 360 / bezárt szög: 2.5860112912

- ($-0.0000000000 - 0.1767766953j$, $-0.1767766953 + 0.0000000000j$, $0.1767766953 + 0.0000000000j$, $0.0000000000 - 0.1767766953j$, $-0.0708578407 + 0.0933651277j$, $-0.1024390067 - 0.1744446057j$, $0.0096014138 + 0.2094762674j$, $0.0016995886 - 0.1411877186j$, $-0.0643371647 + 0.2319681457j$, $-0.0045120309 + 0.0489413514j$, $-0.1797836554 + 0.0000063067j$, $-0.1781389313 - 0.0001691260j$, $0.0825438746 + 0.0956938869j$, $-0.0120292646 - 0.2191123782j$, $-0.0636504684 - 0.2309561242j$, $-0.0182339175 - 0.0717740873j$, $-0.1063822462 + 0.1826080245j$, $-0.0057031168 + 0.1521960379j$, $-0.0862834433 - 0.0932079122j$, $0.0034147037 + 0.2151541838j$, $0.0825500975 - 0.0956720887j$, $-0.1019115982 + 0.1771555256j$, $-0.0047139667 + 0.1392346835j$, $0.0659596963 + 0.2305288958j$, $0.0714627745 - 0.0971716541j$, $0.0043958055 - 0.2189903571j$, $0.1806051074 - 0.0019964059j$, $0.1646380183 + 0.0072949554j$, $0.0647844227 - 0.2334196037j$, $-0.0192848456 - 0.0793260017j$, $-0.1026064623 - 0.1775698338j$, $0.0053263753 - 0.1295665758j$)

$-0.7571151198 - 0.6532814824j$: Bezárt szög: -139.2105290591 360 / bezárt szög: -2.5860112912

- $\big(\,0.0000000000+0.1767766953j,\ -0.1767766953+0.0000000000j,\ -0.1767766953-0.0000000000j,\ 0.0000000000-0.1767766953j,\ -0.0043032847+0.2207795305j,\ 0.0011544877-0.1412148199j,\ -0.0758652718-0.1130131266j,\ -0.1021116487-0.1742334774j,\ 0.0028448153-0.0674048637j,\ 0.0676005850+0.2356152512j,\ 0.0042892824-0.0000089190j,\ 0.2499924041+0.0000000000j,\ 0.0000116154+0.2157062555j,\ -0.0926330013+0.0759222601j,\ 0.0041668886+0.0713479055j,\ 0.0697386513-0.2283692737j,\ -0.0097552639+0.1484246338j,\ -0.1025979028+0.1835024714j,\ -0.0025982537+0.2153153538j,\ -0.0874676675+0.0924468720j,\ -0.0000005137+0.2157135435j,\ 0.0000845801-0.1449079393j,\ 0.1066657602-0.1752681485j,\ -0.0038178758+0.0706482164j,\ -0.0388332433+0.2155057324j,\ -0.0842590141-0.0861644877j,\ 0.0054904363-0.0028233443j,\ 0.2492471718-0.0000000000j,\ 0.0027157234-0.0617324228j,\ 0.0584851110+0.2289431632j,\ 0.0012331775+0.1449240180j,\ 0.1035909150+0.1655989088j\,\big)$

$-0.7571151198 + 0.6532814824j$: Bezárt szög: 139.2105290591 360 / bezárt szög: 2.5860112912

- $\big(\,-0.1767766953+0.0000000000j,\ 0.0000000000+0.1767766953j,\ -0.0000000000+0.1767766953j,\ 0.1767766953+0.0000000000j,\ 0.1748577085+0.0542322434j,\ 0.0032651722+0.1448706326j,\ 0.1518259620-0.0104066214j,\ -0.2040280044-0.0025163337j,\ 0.1748469380-0.1188795793j,\ -0.1383302884+0.0169168810j,\ 0.2499632012-0.0000000000j,\ 0.0019340886+0.0002391802j,\ -0.1767943201+0.0631763465j,\ 0.1769436001-0.0142524533j,\ 0.1767048762+0.1176107300j,\ -0.1160726279-0.0093040811j,\ -0.0085875259-0.1504472154j,\ -0.2032318902-0.0069315581j,\ -0.1748693425+0.0660384885j,\ 0.1662024526-0.0049888883j,\ 0.1767776372+0.0631811093j,\ 0.0005367463+0.1441247643j,\ 0.1993461426-0.0014079061j,\ 0.1775143297+0.1218776267j,\ 0.1538589460-0.0619165454j,\ 0.1721261700+0.0042238264j,\ 0.2499237560-0.0000000000j,\ -0.0164138534+0.0103166249j,\ 0.1718334832-0.1197060043j,\ -0.1370942062-0.0174249825j,\ 0.0011272727-0.1451074505j,\ 0.2017317701+0.0106792257j\,\big)$

$-0.8660254038 + 0.5000000000j$: Bezárt szög: 150.0000000000 360 / bezárt szög: 2.4000000000

- $\big(\,-0.1767766953+0.0000000000j,\ -0.0000000000-0.1767766953j,\ -0.0000000000+0.1767766953j,\ -0.1767766953-0.0000000000j,\ -0.0025070404-0.0134082402j,\ -0.2037069164-0.0023088254j,\ 0.2490469209+0.0000000000j,\ 0.0035586333+0.1444076785j,\ 0.0036674736-0.0020483354j,\ 0.2489918541+0.0000000000j,\ -0.1737176939-0.0000063067j,\ 0.1754037170-0.0001691260j,\ -0.0000266897-0.0000073232j,\ 0.2487041561+0.0000000000j,\ 0.0000834413+0.0044867536j,\ 0.2492706060+0.0000000000j,\ -0.1993866018-0.0060722978j,\ -0.0098027034-0.1450953456j,\ -0.0028305382-0.0043472166j,\ -0.2499069014+0.0000000000j,\ -0.0000014262+0.0000001118j,\ -0.2042733957-0.0003795370j,\ 0.0019910798-0.1508481648j,\ 0.0014637678+0.0037209963j,\ 0.2364993352+0.0000000000j,\ -0.2497533032+0.0000000000j,\ 0.1728404579+0.0019964059j,\ -0.1878507125+0.0072949554j,\ -0.0092825846+0.0003302859j,\ -0.2490011246-0.0000000000j,\ -0.2035728903+0.0007971022j,\ 0.0151027058+0.1464996769j\,\big)$

$-0.8660254038 - 0.5000000000j$: Bezárt szög: -150.0000000000 360 / bezárt szög: -2.4000000000

- $\big(\,0.1767766953+0.0000000000j,\ -0.0000000000-0.1767766953j,\ 0.0000000000-0.1767766953j,\ -0.1767766953-0.0000000000j,\ 0.2496275903+0.0000000000j,\ -0.2499670995+0.0000000000j,\ -0.0205213753-0.0073827071j,\ 0.0043584179+0.0001127525j,\ -0.2499647054-0.0000000000j,\ 0.0198401929-0.0104605605j,\ 0.2499632012+0.0000000000j,\ 0.0019340886+0.0002391802j,\ -0.2499999985+0.0000000000j,\ 0.0223127559-0.0121812833j,\ -0.2499597209-0.0000000000j,\ -0.0068546515+0.0178095129j,\ -0.2496592190+0.0000000000j,\ -0.0120058107-0.0011338670j,\ -0.2499461737-0.0000000000j,\ 0.0036951218-0.0057346921j,\ 0.2500000000+0.0000000000j,\ 0.2499990006-0.0000000000j,\ -0.0024385648+0.0080744617j,\ -0.2499680211-0.0000000000j,\ 0.0106415021+0.0803419125j,\ 0.0109079166+0.0020748296j,\ 0.2499237560-0.0000000000j,\ -0.0164138534+0.0103166249j,\ -0.2498273895-0.0000000000j,\ -0.0039272137+0.0219776459j,\ 0.2499943946+0.0000000000j,\ -0.0184969615-0.0031465935j\,\big)$

$-0.8660254038 - 0.5000000000j$: Bezárt szög: -150.0000000000 360 / bezárt szög: -2.4000000000

- $\big(\,-0.0000000000-0.1767766953j,\ 0.1767766953-0.0000000000j,\ 0.1767766953+0.0000000000j,\ -0.0000000000+0.1767766953j,\ -0.0059589381-0.2188607248j,\ -0.0021106845+0.1468702640j,\ 0.0758652718-0.0775991344j,\ 0.1021116487-0.1792661449j,\ 0.0009400150+0.0741814713j,\ -0.0676005850+0.2244617044j,\ 0.0042892824-0.0000089190j,\ 0.2499924041+0.0000000000j,\ -0.0000060105-0.2157266829j,\ 0.0926330013+0.1144276601j,\ 0.0041235511-0.0715020849j,\ -0.0697386513-0.2322227481j,\ -0.0011677380-0.1335506026j,\ 0.1025979028+0.1696393553j,\ -0.0007289618-0.2131489537j,\ 0.0874676675+0.0988235896j,\ 0.0000004282-0.2157146351j,\ -0.0004521663+0.1439782673j,\ -0.1066657602-0.1780839606j,\ -0.0030576289-0.0679435261j,\ 0.0388332433+0.2214880580j,\ 0.0842590141-0.1049884149j,\ 0.0054904363-0.0028233443j,\ 0.2492471718-0.0000000000j,\ -0.0021054347+0.0788844025j,\ -0.0584851110+0.2311509221j,\ 0.0001059048-0.1429715245j,\ -0.1035909150+0.1869573601j\,\big)$

$-0.8660254038 + 0.5000000000j$: Bezárt szög: 150.0000000000 360 / bezárt szög: 2.4000000000

- $\big(\,0.0000000000+0.1767766953j,\ -0.1767766953+0.0000000000j,\ -0.1767766953-0.0000000000j,\ 0.0000000000-0.1767766953j,\ -0.0127304957-0.0887362748j,\ -0.0011544877+0.1412148199j,\ 0.0314244245-0.2227548749j,\ 0.1021116487+0.1742334774j,\ 0.0015154333-0.1723133065j,\ 0.1632022492-0.0818215353j,\ 0.0042892824-0.0000089190j,\ 0.2499924041+0.0000000000j,\ 0.0000031153-0.0893773452j,\ 0.0383698455+0.2377474089j,\ -0.0016646933+0.1724671237j,\ 0.1683639977+0.1000432862j,\ 0.0097552639-0.1484246338j,\ 0.1025979028-0.1835024714j,\ -0.0036291614-0.0861227872j,\ 0.0362302941+0.2322045327j,\ 0.0000000918-0.0893530190j,\ -0.0000845801+0.1449079393j,\ -0.1066657602+0.1752681485j,\ 0.0005062645+0.1667348726j,\ -0.0937517426-0.0977256831j,\ 0.0349012264-0.2346405279j,\ 0.0054904363-0.0028233443j,\ 0.2492471718+0.0000000000j,\ 0.0056932576-0.1732918147j,\ 0.1411955482-0.0979536058j,\ -0.0012331775-0.1449240180j,\ -0.1035909150-0.1655989088j\,\big)$

$-0.9626924199+0.2705980501j$: Bezárt szög: 164.3001425950   360 / bezárt szög: 2.1911119145

- $\big(\,0.1767766953-0.0000000000j,\ -0.0000000000-0.1767766953j,\ 0.0000000000-0.1767766953j,\ -0.1767766953-0.0000000000j,\ 0.0023414475-0.0766959741j,\ 0.2499670995+0.0000000000j,\ -0.2352357099+0.0073344779j,\ -0.0043584179-0.0001127525j,\ -0.0026937944-0.1681211134j,\ -0.1757883770+0.0134635220j,\ 0.2499632012+0.0000000000j,\ 0.0019340886+0.0002391802j,\ 0.0000249268-0.0893448461j,\ -0.2279232831+0.0079747295j,\ -0.0000612884+0.1663266894j,\ -0.1710061360+0.0046515551j,\ 0.2496592190+0.0000000000j,\ 0.0120058107+0.0011338670j,\ -0.0026435779-0.0933925260j,\ -0.2313506408+0.0013206614j,\ -0.0000013320-0.0893515817j,\ -0.2499990006-0.0000000000j,\ 0.0024385648-0.0080744617j,\ 0.0010751514+0.1723609927j,\ 0.2282309103-0.0072213057j,\ -0.2325152474-0.0038985630j,\ 0.2499237560+0.0000000000j,\ -0.0164138534+0.0103166249j,\ -0.0068181471-0.1692898548j,\ -0.1978076994-0.0026650007j,\ -0.2499943946+0.0000000000j,\ 0.0184969615+0.0031465935j\,\big)$

$-0.9626924199+0.2705980501j$: Bezárt szög: 164.3001425950   360 / bezárt szög: 2.1911119145

- $\big(\,-0.0000000000-0.1767766953j,\ 0.1767766953-0.0000000000j,\ 0.1767766953+0.0000000000j,\ 0.0000000000+0.1767766953j,\ 0.0120447016-0.0933686815j,\ 0.0021106845-0.1468702640j,\ 0.0314244245+0.2374238308j,\ -0.1021116487+0.1792661449j,\ 0.0030831614-0.1695063437j,\ 0.1632022492+0.1087485794j,\ 0.0042892824-0.0000089190j,\ 0.2499924041+0.0000000000j,\ -0.0000104162-0.0893280291j,\ 0.0383698455-0.2217979500j,\ 0.0017693192+0.1724032605j,\ 0.1683639977-0.0907401760j,\ 0.0011677380+0.1335506026j,\ -0.1025979028-0.1696393553j,\ 0.0044034474-0.0913529399j,\ 0.0362302941-0.2295632098j,\ 0.0000002984-0.0893503837j,\ 0.0004521663-0.1439782673j,\ 0.1066657602+0.1780839606j,\ -0.0023416628+0.1678551919j,\ -0.0937517426+0.0832830716j,\ 0.0349012264+0.2268434020j,\ 0.0054904363-0.0028233443j,\ 0.2492471718+0.0000000000j,\ 0.0059460475-0.1661872321j,\ 0.1411955482+0.0926236043j,\ -0.0001059048+0.1429715245j,\ 0.1035909150-0.1869573601j\,\big)$

$-0.9626924199-0.2705980501j$: Bezárt szög: -164.3001425950 360 / bezárt szög: -2.1911119145

- $\big(\,-0.0000000000-0.1767766953j,\ -0.1767766953+0.0000000000j,\ 0.1767766953+0.0000000000j,\ 0.0000000000-0.1767766953j,\ -0.0293502786-0.2315218546j,\ 0.1024390067+0.1744446057j,\ -0.0040139488+0.1089800876j,\ -0.0016995886+0.1411877186j,\ 0.1553236556+0.0931686099j,\ -0.0164417556-0.1699997967j,\ -0.1797836554+0.0000063067j,\ -0.1781389313-0.0001691260j,\ 0.0341907924-0.2309603426j,\ 0.0082022415-0.0666081657j,\ 0.1536658240-0.0955988208j,\ -0.0025179289+0.1553659074j,\ 0.1063822462-0.1826080245j,\ 0.0057031168-0.1521960379j,\ -0.0357397724+0.2319318076j,\ -0.0047927694+0.0851202099j,\ 0.0341933700+0.2309693734j,\ 0.1019115982-0.1771555256j,\ 0.0047139667-0.1392346835j,\ -0.1592407933+0.0966519307j,\ 0.0374171354+0.2067855401j,\ -0.0004249772-0.0789021320j,\ 0.1806051074-0.0019964059j,\ 0.1646380183+0.0072949554j,\ -0.1564034319-0.0893056564j,\ -0.0108726206+0.1812476053j,\ 0.1026064623+0.1775698338j,\ -0.0053263753+0.1295665758j\,\big)$

$-0.9626924199-0.2705980501j$: Bezárt szög: -164.3001425950 360 / bezárt szög: -2.1911119145

- $\big(\,-0.1767766953+0.0000000000j,\ -0.0000000000-0.1767766953j,\ -0.0000000000+0.1767766953j,\ -0.1767766953-0.0000000000j,\ -0.2379315917+0.0008960331j,\ 0.2037069164+0.0023088254j,\ 0.0191659145-0.0821159785j,\ -0.0035586333-0.1444076785j,\ 0.1849914616+0.0024887415j,\ -0.0145728112+0.1766488416j,\ -0.1737176939-0.0000063067j,\ 0.1754037170-0.0001691260j,\ 0.2334898237-0.0000095391j,\ -0.0208389723+0.1002652381j,\ 0.1866425070-0.0000566231j,\ 0.0050348070-0.1822358779j,\ 0.1993866018+0.0060722978j,\ 0.0098027034+0.1450953456j,\ -0.2318832123-0.0010116535j,\ 0.0034510547-0.0946743210j,\ 0.2334872477+0.0000005097j,\ 0.2042733957+0.0003795370j,\ -0.0019910798+0.1508481648j,\ -0.1810788381-0.0009933104j,\ 0.0078162850-0.1014761549j,\ 0.0101874360+0.0912012997j,\ 0.1728404579+0.0019964059j,\ -0.1878507125+0.0072949554j,\ -0.1837247362-0.0062991465j,\ -0.0028845760-0.1528289601j,\ 0.2035728903-0.0007971022j,\ -0.0151027058-0.1464996769j\,\big)$

$-1.0000000000+0.0000000000j$: Bezárt szög: 180.0000000000   360 / bezárt szög: 2.0000000000

- $\big($ 0.1767766953 − 0.0000000000j, 0.0000000000 + 0.1767766953j, 0.0000000000 − 0.1767766953j, 0.1767766953 + 0.0000000000j, 0.1700157872 + 0.0088474664j, 0.0039990029 + 0.0006761332j, −0.1896551147 + 0.0580647652j, −0.2499619801 + 0.0000000000j, 0.1334020124 + 0.0003114142j, 0.1657592949 + 0.1249095938j, −0.1737176939 − 0.0000063067j, 0.1754037170 − 0.0001691260j, −0.165083652 + 0.0000119234j, −0.1611250166 − 0.0708982298j, 0.1320351843 + 0.0031325753j, 0.1798210820 − 0.1288602251j, −0.0105175283 − 0.0077237287j, −0.2497089803 + 0.0000000000j, 0.1659676846 + 0.0037892933j, 0.1742706005 + 0.0669448544j, −0.1650994077 − 0.0000004395j, −0.0006573773 + 0.0002599227j, −0.2498576724 + 0.0000000000j, −0.1270070342 + 0.0019287652j, 0.1727572318 − 0.0717544773j, 0.1693986492 − 0.0644890575j, 0.1728404579 + 0.0019964059j, −0.1878507125 + 0.0072949554j, −0.1364767853 − 0.0042206218j, −0.1781100870 − 0.1080663940j, −0.0013806214 + 0.0009468742j, −0.2492949285 − 0.0000000000j $\big)$

−1.0000000000 + 0.0000000000j: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- $\big($ 0.0000000000 + 0.1767766953j, 0.1767766953 − 0.0000000000j, −0.1767766953 − 0.0000000000j, −0.0000000000 + 0.1767766953j, 0.0708578407 + 0.0976915585j, −0.1024390067 + 0.1790622565j, −0.0039509343 − 0.2251826481j, 0.0018590447 − 0.1473514523j, 0.0643371647 + 0.2299064047j, −0.0148165646 − 0.0856012476j, −0.1797836554 + 0.0000063067j, −0.1781389313 − 0.0001691260j, −0.0825438746 + 0.0956478282j, 0.0027061140 + 0.2020349342j, 0.0636504684 − 0.2309092160j, −0.0146737713 + 0.0591083429j, −0.1063822462 − 0.1704634289j, −0.0040995866 + 0.1352172576j, 0.0862834433 − 0.0980926072j, 0.0009744396 − 0.2123260600j, −0.0825500975 − 0.0956696275j, −0.1019115982 − 0.1763964516j, 0.0067050465 + 0.1426833350j, −0.0659596963 + 0.2313517811j, 0.0769897226 + 0.0775087221j, −0.0028077996 + 0.2106417991j, 0.1806051074 − 0.0019964059j, 0.1646380183 + 0.0072949554j, −0.0647844227 − 0.2282012199j, −0.0213245488 + 0.0720694570j, −0.1026064623 + 0.1759756295j, 0.0097763305 − 0.1557252295j $\big)$

4. Szimulációs mátrix

4.1. 1. szimuláció mátrixa
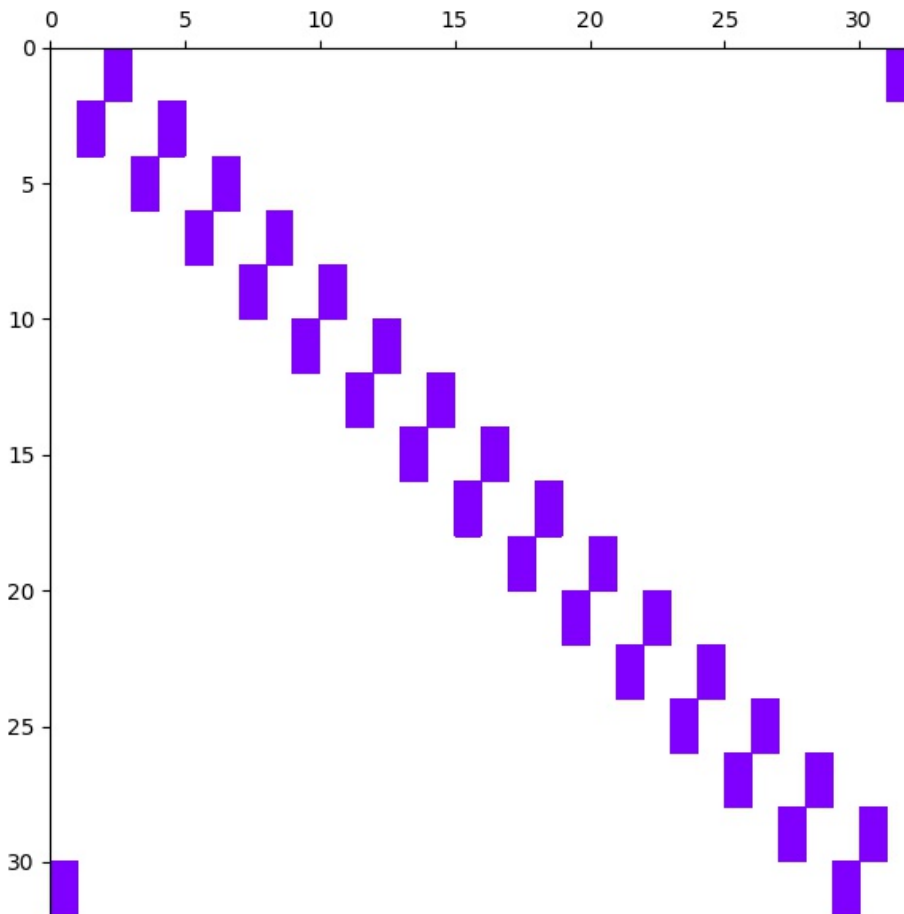
14. ábra. 1. szimuláció mátrixa

4.2. Érme sajátértékek, sajátvektorok

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- $\big(\ 0.9238795325 + 0.0000000000j,\ -0.3826834324 + 0.0000000000j\ \big)$

$-1.0000000000 + 0.0000000000j$: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- $\big(\ 0.3826834324 - 0.0000000000j,\ 0.9238795325 + 0.0000000000j\ \big)$

4.3. Kvantum szimuláció (Grover érme)

Kezdőcsúcs: 8 Bolyongók: 1 Lépésszám: 100

15. ábra. 2. szimuláció

16. ábra. 2. szimuláció levágva az elejét

17. ábra. 2. szimuláció mixing time

18. ábra. 2. szimuláció hitting time

4.4. Sajátértékek, sajátvektorok

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- $\big($ $0.7071067812 - 0.0000000000j$, $0.7071067812 + 0.0000000000j$, $0.0000000000 +$

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$0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$)

- ($0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.7071067812 - 0.0000000000j$, $-0.7071067812 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$)

- ($0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.7071067812 - 0.0000000000j$, $-0.7071067812 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$)

- ($0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.7071067812 - 0.0000000000j$, $-0.7071067812 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$)

- ($0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$, $0.7071067812 - 0.0000000000j$, $-0.7071067812 + 0.0000000000j$, $0.0000000000 + 0.0000000000j$)

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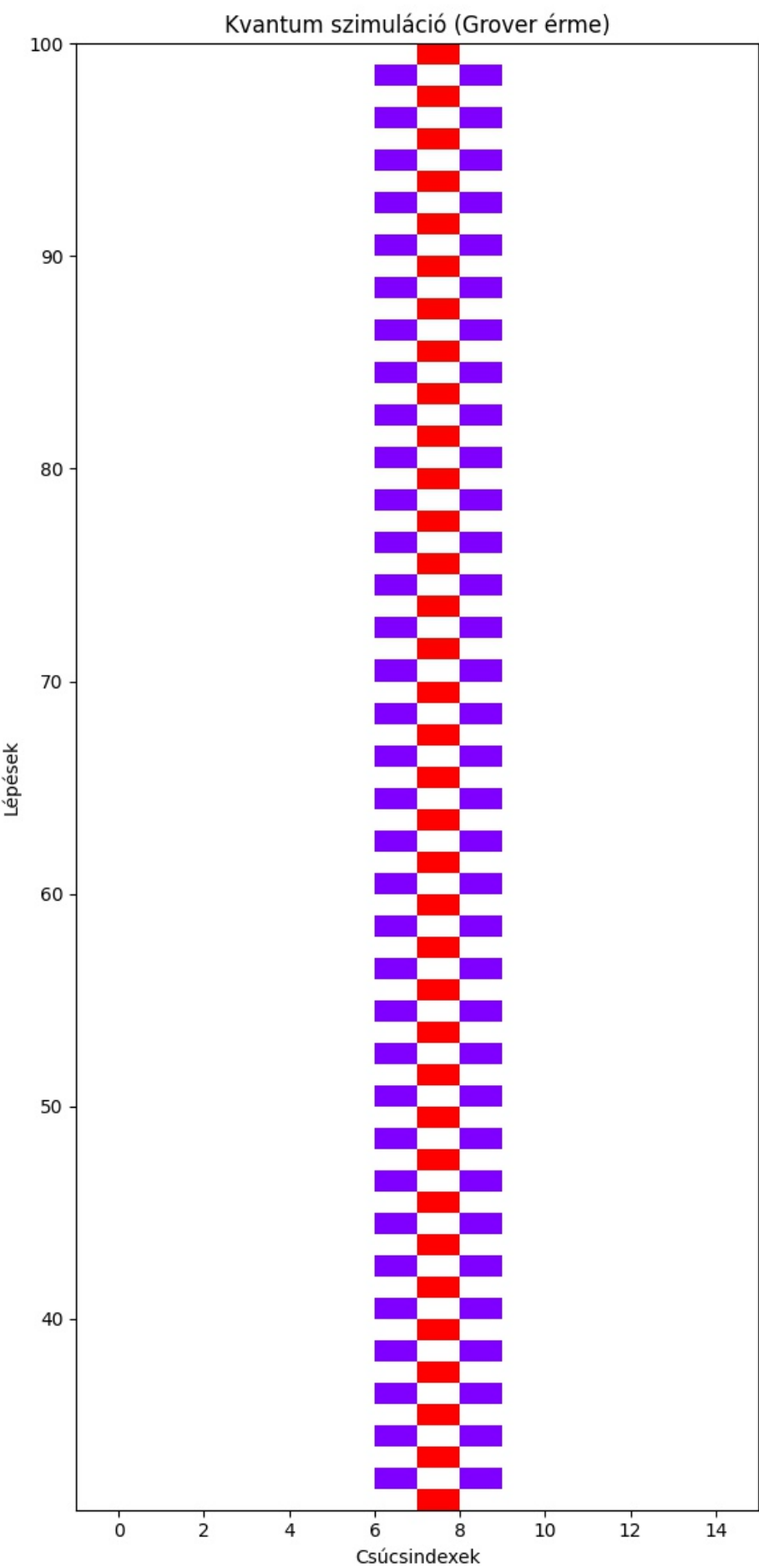$-1.0000000000 + 0.0000000000j$: Bezárt szög: $180.0000000000\ \ 360\ /\ $bezárt szög: 2.0000000000

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5. Szimulációs mátrix

5.1. 2. szimuláció mátrixa

19. ábra. 2. szimuláció mátrixa

5.2. Érme sajátértékek, sajátvektorok

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- $\big(\ 0.7071067812 - 0.0000000000j, \ 0.7071067812 + 0.0000000000j \ \big)$

$-1.0000000000 + 0.0000000000j$: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- $\big(\ 0.7071067812 + 0.0000000000j, \ -0.7071067812 + 0.0000000000j \ \big)$

5.3. Kvantum szimuláció (DFT érme)

Kezdőcsúcs: 8 Bolyongók: 1 Lépésszám: 100

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- $\big(\ 0.7071067812 - 0.0000000000j, \ 0.7071067812 + 0.0000000000j \ \big)$

Kvantum szimuláció (DFT érme)

20. ábra. 3. szimuláció

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21. ábra. 3. szimuláció levágva az elejét
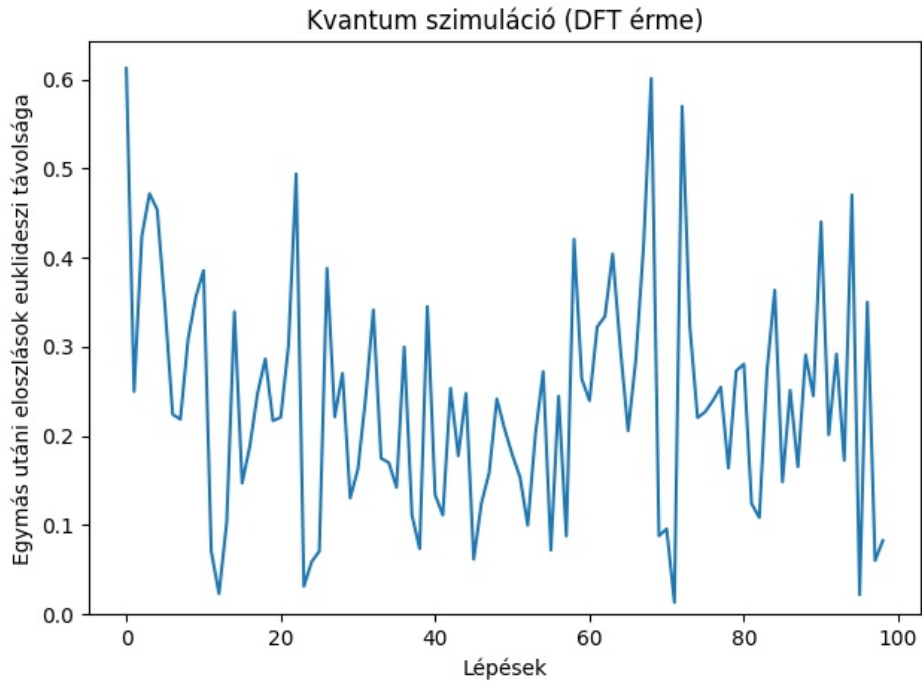
22. ábra. 3. szimuláció mixing time
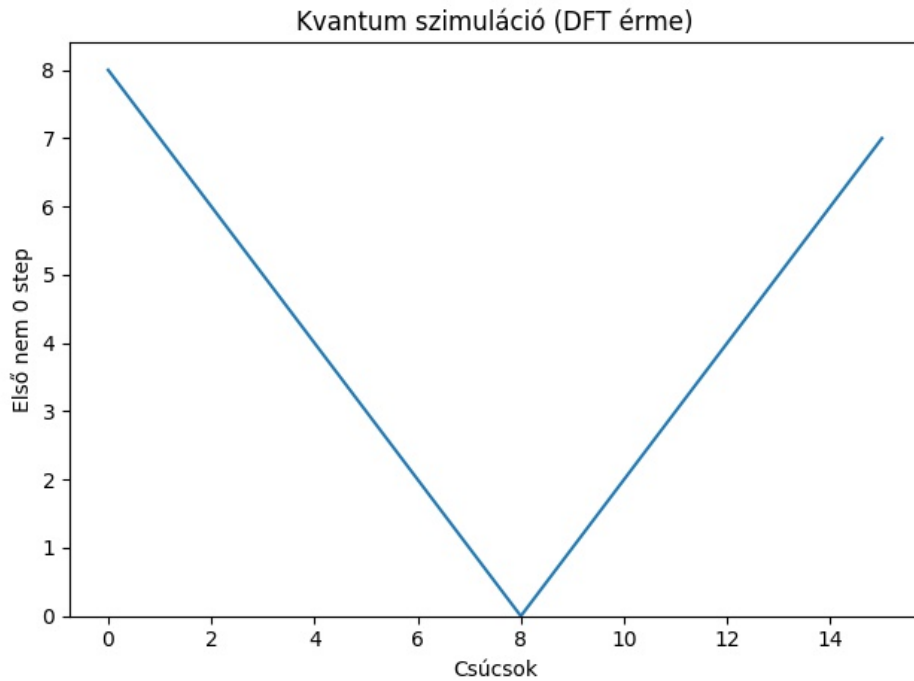
23. ábra. 3. szimuláció hitting time

5.4. Sajátértékek, sajátvektorok

$1.0000000000 - 0.0000000000j$: Bezárt szög: -0.0000000000 360 / bezárt szög: $-52625808774208344.0000000000$

- $\big(-0.1767766953 + 0.0000000000j, \, 0.0000000000 + 0.1767766953j, \, 0.1767766953 - 0.0000000000j, \, 0.1767766953 - 0.0000000000j, \, -0.0131694902 - 0.0467374372j, \, 0.0909004109 - 0.1666745554j, \, 0.2337919930 + 0.0069394987j, \, -0.0044410924 + 0.1619714741j, \, 0.0650229994 + 0.2302055577j, \, -0.0029448458 + 0.0696116055j, \, 0.1723605011 - 0.0007797759j, \, 0.1776501368 + 0.0017785790j, \, 0.0853366114 - 0.0895940684j, \, 0.0032635996 - 0.2143787375j, \, 0.0451502940 - 0.2278272424j, \, 0.0212272262 + 0.0912637717j, \, 0.0964985487 + 0.1838433698j, \, 0.0080473019 + 0.1438570448j, \, 0.0825499111 + 0.0956708102j, \, 0.0825086825 - 0.0958332995j, \, -0.0117650414 - 0.2175617158j, \, 0.1020621177 + 0.1767780000j, \, -0.0061168826 - 0.2073020316j, \, 0.0970888647 - 0.1706648533j, \, 0.0072023125 + $

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$0.1362026447j,\ 0.0374264303 - 0.1350412159j,\ -0.0648887254 - 0.2309864915j,\ 0.0056526051 - 0.0759635901j,$
$-0.0649239793 + 0.2309741885j,\ -0.1300100938 + 0.0366816583j,\ -0.1767730508 + 0.0000005746j,\ -0.1606489577 +$
$0.0029643484j\ )$

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: $55616272230918336.0000000000$

- $(\ 0.0000000000 + 0.1767766953j,\ -0.1767766953 + 0.0000000000j,\ 0.0000000000 + 0.1767766953j,\ 0.0000000000 - 0.1767766953j,\ -0.1436378877 - 0.0571353495j,\ 0.0160277526 + 0.0184840527j,\ -0.0330624163 - 0.2233174853j,\ 0.2489398333 + 0.0000000000j,\ 0.1315468421 + 0.0015452039j,\ -0.1775347214 - 0.1185123857j,\ 0.1810818643 + 0.0007797759j,\ -0.1758809319 + 0.0017785790j,\ 0.1592515005 + 0.0005492190j,\ 0.1782554463 + 0.0674547053j,\ 0.1435116160 + 0.0522416188j,\ 0.1672450177 - 0.1047870307j,\ -0.0128562859 - 0.0092804006j,\ -0.2498052405 + 0.0000000000j,\ 0.1651004316 + 0.0000002459j,\ 0.1652456329 + 0.0000135884j,\ 0.1687306637 + 0.0488289615j,\ -0.0000022598 + 0.0000000781j,\ -0.1737884205 + 0.0756559131j,\ 0.0101612662 + 0.0083686166j,\ 0.2496552088 + 0.0000000000j,\ 0.2456220068 + 0.0000000000j,\ -0.1298592256 + 0.0001123078j,\ 0.1745185546 + 0.1161083537j,\ -0.1298301069 - 0.0000025872j,\ 0.1293604494 + 0.1092215233j,\ -0.1767803397 - 0.0000005746j,\ 0.1915054508 + 0.0029643484j\ )$

$0.9626924199 - 0.2705980501j$: Bezárt szög: -15.6998574050 360 / bezárt szög: -22.9301445685

- $(\ -0.0000000000 - 0.1767766953j,\ 0.1767766953 - 0.0000000000j,\ 0.0000000000 + 0.1767766953j,\ 0.0000000000 - 0.1767766953j,\ -0.0455720391 - 0.0075079448j,\ 0.2488000220 + 0.0000000000j,\ -0.0053132840 + 0.2234259143j,\ -0.0220724021 + 0.0064628542j,\ 0.0019621509 + 0.1699132857j,\ -0.1854923704 - 0.0010086663j,\ 0.2499214933 - 0.0000000000j,\ 0.0012510167 + 0.0025152906j,\ 0.0065280986 - 0.0923676825j,\ -0.2310719417 - 0.0008369115j,\ -0.0123474365 - 0.1179834039j,\ 0.2007358508 + 0.0106103484j,\ 0.2494966735 + 0.0000000000j,\ 0.0045375401 - 0.0087608535j,\ -0.0000000518 - 0.0893513799j,\ 0.0001758566 + 0.0893067543j,\ 0.2400239540 - 0.0039146490j,\ -0.2500000000 - 0.0000000000j,\ -0.2259173055 - 0.0013246598j,\ -0.2496531893 - 0.0000000000j,\ -0.0128277454 - 0.0027795057j,\ -0.0300982215 + 0.0355517490j,\ -0.0000434847 + 0.1695624108j,\ -0.1884686366 + 0.0028203443j,\ -0.0000112520 - 0.1696545339j,\ 0.0002846694 - 0.1987012524j,\ 0.2499999999 - 0.0000000000j,\ -0.0218188355 - 0.0041922217j\ )$

$0.9626924199 + 0.2705980501j$: Bezárt szög: 15.6998574050 360 / bezárt szög: 22.9301445685

- $(\ 0.1767766953 - 0.0000000000j,\ -0.0000000000 - 0.1767766953j,\ -0.1767766953 - 0.0000000000j,\ -0.1767766953 + 0.0000000000j,\ 0.0179210888 + 0.1970403032j,\ -0.0909004109 - 0.1851818100j,\ -0.1515865416 - 0.0069357631j,\ 0.0135809485 - 0.1307563837j,\ 0.1569794070 + 0.0938524989j,\ -0.0019917948 + 0.1708037851j,\ 0.1723605011 - 0.0007797759j,\ 0.1776501368 + 0.0017785790j,\ -0.0353475818 + 0.2283615684j,\ -0.0063326157 + 0.0905907804j,\ 0.1090024520 - 0.1038194524j,\ 0.0006717959 + 0.1914392608j,\ -0.0964985487 + 0.1689982096j,\ 0.0043424159 - 0.1374399940j,\ -0.0341932927 - 0.2309698633j,\ -0.0341762153 + 0.2310371108j,\ 0.0211699944 + 0.0817340081j,\ -0.1020621177 + 0.1767753906j,\ 0.0172151130 + 0.0830306270j,\ -0.0970888647 - 0.1823980729j,\ -0.0032714978 - 0.1543438162j,\ 0.0128513353 + 0.1776065290j,\ -0.1566552408 - 0.0957110193j,\ 0.0001827876 - 0.1757127987j,\ -0.1567403514 + 0.0956812533j,\ -0.2059312986 + 0.0149761638j,\ -0.1767730508 + 0.0000005746j,\ -0.1606489577 + 0.0029643484j\ )$

$0.9626924199 + 0.2705980501j$: Bezárt szög: 15.6998574050 360 / bezárt szög: 22.9301445685

- $(\ -0.0000000000 - 0.1767766953j,\ 0.1767766953 + 0.0000000000j,\ 0.0000000000 - 0.1767766953j,\ 0.0000000000 + 0.1767766953j,\ 0.2456966016 + 0.0000000000j,\ -0.2138161401 + 0.0092536273j,\ 0.0798197338 + 0.0786221338j,\ 0.0180220409 + 0.1384485814j,\ 0.1833639526 + 0.0018127910j,\ -0.0010917725 - 0.1676018232j,\ 0.1810818643 + 0.0007797759j,\ -0.1758809319 + 0.0017785790j,\ -0.2322054137 + 0.0024981952j,\ -0.0021869551 - 0.0953953591j,\ 0.2197665242 + 0.0114075439j,\ -0.0114845584 - 0.1481912400j,\ -0.2090712226 + 0.0074225801j,\ -0.0037048860 + 0.1513783298j,\ -0.2334873250 - 0.0000000198j,\ -0.2335043215 - 0.0000672974j,\ 0.0102294707 - 0.0690545796j,\ -0.2041241002 + 0.0000013047j,\ -0.0034615028 - 0.1069936183j,\ -0.2086725985 + 0.0058666098j,\ -0.0104738102 + 0.1418690451j,\ -0.0245750950 - 0.1127820503j,\ -0.1837078805 + 0.0000401746j,\ -0.0030527187 + 0.1642020085j,\ -0.1836228169 - 0.0000103955j,\ 0.1293604494 - 0.0792691958j,\ -0.1767803397 - 0.0000005746j,\ 0.1915054508 + 0.0029643484j\ )$

$0.9626924199 - 0.2705980501j$: Bezárt szög: -15.6998574050 360 / bezárt szög: -22.9301445685

- $(\ -0.1767766953 + 0.0000000000j,\ 0.0000000000 + 0.1767766953j,\ -0.1767766953 + 0.0000000000j,\ -0.1767766953 - 0.0000000000j,\ 0.0746509317 - 0.0547019019j,\ -0.0196135016 - 0.1398575100j,\ 0.2492283636 + 0.0000000000j,\ -0.0978979307 + 0.1887705515j,\ -0.0015322673 + 0.1683839116j,\ 0.1548438941 + 0.0946546293j,\ -0.0061669351 - 0.0011027697j,\ 0.2499842160 + 0.0000000000j,\ 0.0020696028 - 0.0824034483j,\ 0.0365062235 - 0.2317183929j,\ -0.0133682861 - 0.2094708745j,\ -0.1369108535 + 0.1055176500j,\ -0.0013136774 + 0.1569264462j,\ 0.1070406435 +$

$0.1792587295j, 0.0000003105 - 0.0893516796j, 0.0000186670 + 0.0895321959j, -0.0264260435 + 0.2259933859j,$
$-0.0000009778 - 0.1443391334j, 0.0409446851 + 0.2289388658j, 0.0100658251 + 0.1403687092j, 0.1003165638 -$
$0.1691267889j, 0.0797489525 + 0.1563037703j, -0.0000082899 + 0.1697466065j, 0.1517028748 + 0.0984373304j,$
$0.0000121821 - 0.1696512246j, 0.1626804579 + 0.0990082016j, -0.0000051541 - 0.0000008125j, 0.2490107702 +$
$0.0000000000j$)

$0.8660254038 - 0.5000000000j$: Bezárt szög: -30.0000000000 360 / bezárt szög: -12.0000000000

- ($0.1767766953 + 0.0000000000j, 0.0000000000 - 0.1767766953j, 0.1767766953 - 0.0000000000j, 0.1767766953 +$
  $0.0000000000j, -0.0746509317 - 0.1333461357j, -0.0065268964 + 0.1625241751j, -0.1890535876 - 0.0610913794j,$
  $0.0978979307 + 0.1632835369j, -0.0018173337 + 0.1704284939j, 0.1548438941 - 0.0966719619j, -0.0061669351 -$
  $0.0011027697j, 0.2499842160 - 0.0000000000j, -0.0039816386 - 0.0953188811j, 0.0365062235 + 0.2300445699j,$
  $0.0344466786 - 0.1966047128j, -0.1369108535 - 0.0842969531j, -0.0118107909 - 0.1387449123j, -0.1070406435 +$
  $0.1740192295j, -0.0000002953 - 0.0893517822j, -0.0000701742 + 0.0891842746j, -0.0264260435 - 0.2338226838j,$
  $0.0000008674 + 0.1443359375j, 0.0409446851 - 0.2315881854j, 0.0017691860 - 0.1547389097j, -0.1003165638 -$
  $0.1839389934j, -0.0797489525 + 0.1910582029j, 0.0000825229 + 0.1697012950j, 0.1517028748 - 0.0927966417j,$
  $0.0000070262 - 0.1696394999j, -0.0162100829 + 0.1400187415j, -0.0000051541 - 0.0000008125j, 0.2490107702 -$
  $0.0000000000j$)

$0.8660254038 + 0.5000000000j$: Bezárt szög: 30.0000000000 360 / bezárt szög: 12.0000000000

- ($-0.0000000000 - 0.1767766953j, 0.1767766953 + 0.0000000000j, -0.0000000000 + 0.1767766953j, -0.0000000000 -$
  $0.1767766953j, 0.2321514439 - 0.0162877541j, -0.2488000220 + 0.0000000000j, -0.0053063816 + 0.0715300464j,$
  $0.0220724021 - 0.0064628542j, 0.2499854496 + 0.0000000000j, -0.0014863967 + 0.0027696749j, 0.2499214933 +$
  $0.0000000000j, 0.0012510167 + 0.0025152906j, -0.2498808074 - 0.0000000000j, -0.0023416220 - 0.0065077138j,$
  $0.2414839545 + 0.0000000000j, -0.0156356828 + 0.0273711343j, -0.2494966735 + 0.0000000000j, -0.0045375401 +$
  $0.0087608535j, 0.2500000000 + 0.0000000000j, 0.2499999245 + 0.0000000000j, -0.0109529242 - 0.0212927361j,$
  $0.2500000000 + 0.0000000000j, 0.0037063089 + 0.0191821961j, 0.2496531893 + 0.0000000000j, 0.0128277454 +$
  $0.0027795057j, 0.0300982215 - 0.0355517490j, 0.2499999648 + 0.0000000000j, 0.0041561321 + 0.0072865606j,$
  $0.2499999994 + 0.0000000000j, 0.0398218547 + 0.0584171579j, 0.2499999999 + 0.0000000000j, -0.0218188355 -$
  $0.0041922217j$)

$0.8660254038 - 0.5000000000j$: Bezárt szög: -30.0000000000 360 / bezárt szög: -12.0000000000

- ($0.0000000000 - 0.1767766953j, 0.1767766953 - 0.0000000000j, -0.0000000000 - 0.1767766953j, -0.0000000000 +$
  $0.1767766953j, -0.0425619526 + 0.0808015862j, 0.2138161401 - 0.0092536273j, -0.0330624163 + 0.2371964827j,$
  $-0.0180220409 - 0.1384485814j, 0.0026713756 + 0.0003724573j, -0.2499802383 - 0.0000000000j, 0.1810818643 +$
  $0.0007797759j, -0.1758809319 + 0.0017785790j, 0.0069897819 - 0.0032749082j, -0.2499043146 + 0.0000000000j,$
  $-0.0168104505 + 0.0624732620j, 0.2480047307 + 0.0000000000j, 0.2090712226 - 0.0074225801j, 0.0037048860 -$
  $0.1513783298j, 0.0000000555 - 0.0000003279j, -0.0001882936 + 0.0000480805j, -0.2488506637 - 0.0000000000j,$
  $0.2041241002 - 0.0000013047j, 0.2492354442 + 0.0000000000j, 0.2086725985 - 0.0058666098j, 0.0104738102 -$
  $0.1418690451j, 0.0245750950 + 0.1127820503j, 0.0000592024 + 0.0001186526j, 0.2498592256 + 0.0000000000j,$
  $0.0000153190 + 0.0000067366j, 0.0535828526 + 0.2337317553j, -0.1767803397 - 0.0000005746j, 0.1915054508 +$
  $0.0029643484j$)

$0.8660254038 + 0.5000000000j$: Bezárt szög: 30.0000000000 360 / bezárt szög: 12.0000000000

- ($-0.1767766953 + 0.0000000000j, -0.0000000000 + 0.1767766953j, -0.1767766953 + 0.0000000000j, -0.1767766953 +$
  $0.0000000000j, -0.0309214283 - 0.2432818155j, 0.0196135016 + 0.1398575100j, -0.0181337840 - 0.0863962572j,$
  $0.0978979307 - 0.1887705515j, 0.0010378307 - 0.0726383759j, -0.0641384410 + 0.2313694289j, -0.0061669351 -$
  $0.0011027697j, 0.2499842160 + 0.0000000000j, -0.0035612845 - 0.2172047028j, 0.0881338198 + 0.0936137578j,$
  $-0.0620832461 + 0.0685701767j, 0.0567103324 + 0.2247315444j, 0.0013136774 - 0.1569264462j, -0.1070406435 -$
  $0.1792587295j, -0.0000001071 - 0.2157141819j, -0.0000805743 + 0.2156578066j, -0.0637981127 - 0.1046818248j,$
  $0.0000009778 + 0.1443391334j, 0.0988492141 - 0.0985762869j, -0.0100658251 - 0.1403687092j, -0.1003165638 +$
  $0.1691267889j, -0.0797489525 - 0.1563037703j, -0.0001249949 - 0.0702472664j, -0.0628373882 + 0.2296715996j,$
  $0.0000022457 + 0.0702552569j, 0.1856049769 - 0.0990082016j, -0.0000051541 - 0.0000008125j, 0.2490107702 +$
  $0.0000000000j$)

$0.7571151198 + 0.6532814824j$: Bezárt szög: 40.7894709409 360 / bezárt szög: 8.8258070452

- ($0.0000000000 + 0.1767766953j, -0.1767766953 + 0.0000000000j, 0.0000000000 - 0.1767766953j, 0.0000000000 +$
  $0.1767766953j, -0.1319315624 + 0.0168261001j, 0.0130866052 - 0.1285525939j, 0.0075092376 - 0.2085653600j,$
  $0.2069898533 + 0.0127435073j, 0.1781538568 + 0.1201468365j, -0.1322139541 + 0.0012452211j, 0.2499214933 +$

$0.0000000000j, 0.0012510167 + 0.0025152906j, 0.1720763506 + 0.0653138147j, 0.1650483137 + 0.0051934343j,$
$0.1620239857 - 0.0834268649j, 0.1308855840 + 0.0268569640j, -0.0104971135 + 0.1364695563j, -0.1989070436 +$
$0.0026197500j, -0.1767766586 + 0.0631809666j, -0.1769009913 - 0.0631494116j, -0.1619776786 + 0.0178243129j,$
$0.0000018451 - 0.1443376310j, 0.1571269026 - 0.0126271850j, -0.0082966391 + 0.1373043892j, -0.2054473728 +$
$0.0074061022j, -0.2210753406 - 0.0173772163j, 0.1767459221 + 0.1198987305j, -0.1303286218 + 0.0071466610j,$
$0.1767687386 - 0.1199638714j, 0.0283595952 - 0.0991958345j, 0.2499999999 + 0.0000000000j, -0.0218188355 -$
$0.0041922217j$)

$0.7571151198 - 0.6532814824j$: Bezárt szög: -40.7894709409 360 / bezárt szög: -8.8258070452

- ($-0.0000000000 + 0.1767766953j, -0.1767766953 + 0.0000000000j, -0.0000000000 - 0.1767766953j, -0.0000000000 +$
$0.1767766953j, 0.1963801582 - 0.0062082627j, -0.0130866052 + 0.1285525939j, 0.0000048808 - 0.1074065983j,$
$-0.2069898533 - 0.0127435073j, -0.1753789564 + 0.1201468365j, -0.1301118718 - 0.0026716907j, 0.2499214933 +$
$0.0000000000j, 0.0012510167 + 0.0025152906j, -0.1813084762 + 0.0653138147j, 0.1617367602 - 0.0040098627j,$
$-0.1794858979 - 0.0834268649j, 0.1529977787 - 0.0118516653j, 0.0104971135 - 0.1364695563j, 0.1989070436 -$
$0.0026197500j, 0.1767767320 + 0.0631809666j, 0.1766522925 - 0.0631494116j, -0.1774674525 - 0.0122881632j,$
$-0.0000018451 + 0.1443376310j, 0.1623684148 + 0.0145005369j, 0.0082966391 - 0.1373043892j, 0.2054473728 -$
$0.0074061022j, 0.2210753406 + 0.0173772163j, -0.1768074188 + 0.1198987305j, -0.1362062801 - 0.0031580918j,$
$-0.1767846512 - 0.1199638714j, -0.0279570118 - 0.1818101715j, 0.2499999999 + 0.0000000000j, -0.0218188355 -$
$0.0041922217j$)

$0.7571151198 - 0.6532814824j$: Bezárt szög: -40.7894709409 360 / bezárt szög: -8.8258070452

- ($0.1767766953 - 0.0000000000j, -0.0000000000 - 0.1767766953j, -0.1767766953 + 0.0000000000j, -0.1767766953 -$
$0.0000000000j, 0.0007033829 - 0.1309435856j, 0.0909004109 + 0.1851818100j, -0.1790452656 - 0.0028781700j,$
$-0.0135809485 + 0.1307563837j, -0.0650229994 + 0.2317073230j, -0.0021728460 - 0.0723581084j, 0.1723605011 -$
$0.0007797759j, 0.1776501368 + 0.0017785790j, -0.0853366114 - 0.1016564218j, 0.0017171888 + 0.2125865376j,$
$-0.0451502940 - 0.2183769236j, 0.0293480353 - 0.0623727971j, 0.0964985487 - 0.1689982096j, -0.0043424159 +$
$0.1374399940j, -0.0825499111 + 0.0956709060j, -0.0825086825 - 0.0955083589j, -0.0045317133 + 0.2259447210j,$
$0.1020621177 - 0.1767753906j, -0.0085645347 + 0.2101387176j, 0.0970888647 + 0.1823980729j, 0.0032714978 +$
$0.1543438162j, -0.0128513353 - 0.1776065290j, 0.0648887254 - 0.2309532098j, 0.0078112032 + 0.0682840594j,$
$0.0649239793 + 0.2309655767j, 0.0220692607 + 0.0368995348j, -0.1767730508 + 0.0000005746j, -0.1606489577 +$
$0.0029643484j$)

$0.7571151198 + 0.6532814824j$: Bezárt szög: 40.7894709409 360 / bezárt szög: 8.8258070452

- ($0.1767766953 - 0.0000000000j, 0.0000000000 - 0.1767766953j, 0.1767766953 - 0.0000000000j, 0.1767766953 +$
$0.0000000000j, -0.0309214283 + 0.2107063073j, 0.0065268964 - 0.1625241751j, -0.1634085443 + 0.0610913794j,$
$-0.0978979307 - 0.1632835369j, -0.0003496195 + 0.0677023175j, 0.0641384410 + 0.2305338224j, -0.0061669351 -$
$0.0011027697j, 0.2499842160 + 0.0000000000j, 0.0010547783 + 0.2118549554j, -0.0881338198 + 0.0976547240j,$
$-0.0533522901 - 0.0996318389j, -0.0567103324 + 0.2335214449j, 0.0118107909 + 0.1387449123j, 0.1070406435 -$
$0.1740192295j, -0.0000001438 + 0.2157141394j, 0.0000437751 - 0.2158019203j, 0.0637981127 - 0.0857802275j,$
$-0.0000008674 - 0.1443359375j, -0.0988492141 - 0.0921802636j, -0.0017691860 + 0.1547389097j, 0.1003165638 +$
$0.1839389934j, 0.0797489525 - 0.1910582029j, -0.0000942466 + 0.0703566581j, 0.0628373882 + 0.2320080494j,$
$0.0000102020 - 0.0702835628j, 0.2462749928 + 0.0000000000j, -0.0000051541 - 0.0000008125j, 0.2490107702 +$
$0.0000000000j$)

$0.7071067812 + 0.7071067812j$: Bezárt szög: 45.0000000000 360 / bezárt szög: 8.0000000000

- ($-0.1767766953 - 0.0000000000j, -0.0000000000 + 0.1767766953j, -0.1767766953 + 0.0000000000j, -0.1767766953 -$
$0.0000000000j, 0.0309214283 + 0.2432818155j, 0.0196135016 + 0.1398575100j, 0.0181337840 + 0.0863962572j,$
$0.0978979307 - 0.1887705515j, -0.0010378307 + 0.0726383759j, 0.0641384410 - 0.2313694289j, -0.0061669351 -$
$0.0011027697j, 0.2499842160 - 0.0000000000j, 0.0035612845 + 0.2172047028j, -0.0881338198 - 0.0936137578j,$
$0.0620832461 - 0.0685701767j, -0.0567103324 - 0.2247315444j, 0.0013136774 - 0.1569264462j, -0.1070406435 -$
$0.1792587295j, 0.0000001071 + 0.2157141819j, 0.0000805743 - 0.2156578066j, 0.0637981127 + 0.1046818248j,$
$0.0000009778 + 0.1443391334j, -0.0988492141 + 0.0985762869j, -0.0100658251 - 0.1403687092j, -0.1003165638 +$
$0.1691267889j, -0.0797489525 - 0.1563037703j, 0.0001249949 + 0.0702472664j, 0.0628373882 - 0.2296715996j,$
$-0.0000022457 - 0.0702552569j, -0.1856049769 + 0.0990082016j, -0.0000051541 - 0.0000008125j, 0.2490107702 -$
$0.0000000000j$)

$0.7071067812 - 0.7071067812j$: Bezárt szög: -45.0000000000 360 / bezárt szög: -8.0000000000

- ($0.0000000000 - 0.1767766953j, 0.1767766953 + 0.0000000000j, 0.0000000000 + 0.1767766953j, 0.0000000000 -$
$0.1767766953j, -0.2321514439 + 0.0162877541j, -0.2488000220 + 0.0000000000j, 0.0053063816 - 0.0715300464j,$

$0.0220724021 - 0.0064628542j$, $-0.2499854496 - 0.0000000000j$, $0.0014863967 - 0.0027696749j$, $0.2499214933 - 0.0000000000j$, $0.0012510167 + 0.0025152906j$, $0.2498808074 + 0.0000000000j$, $0.0023416220 + 0.0065077138j$, $-0.2414839545 + 0.0000000000j$, $0.0156356828 - 0.0273711343j$, $-0.2494966735 - 0.0000000000j$, $-0.0045375401 + 0.0087608535j$, $-0.2500000000 + 0.0000000000j$, $-0.2499999245 - 0.0000000000j$, $0.0109529242 + 0.0212927361j$, $0.2500000000 + 0.0000000000j$, $-0.0037063089 - 0.0191821961j$, $0.2496531893 - 0.0000000000j$, $0.0128277454 + 0.0027795057j$, $0.0300982215 - 0.0355517490j$, $-0.2499999648 + 0.0000000000j$, $-0.0041561321 - 0.0072865606j$, $-0.2499999994 + 0.0000000000j$, $-0.0398218547 - 0.0584171579j$, $0.2499999999 + 0.0000000000j$, $-0.0218188355 - 0.0041922217j$)

$-0.7071067812 + 0.7071067812j$: Bezárt szög: 135.0000000000   360 / bezárt szög: 2.6666666667

- ($-0.0000000000 + 0.1767766953j$, $-0.1767766953 - 0.0000000000j$, $0.0000000000 + 0.1767766953j$, $0.0000000000 - 0.1767766953j$, $0.2038295784 - 0.0571353495j$, $-0.0160277526 - 0.0184840527j$, $0.0798197338 - 0.1121289975j$, $-0.2489398333 + 0.0000000000j$, $-0.1277689465 - 0.0010184698j$, $-0.1759907219 + 0.1185123857j$, $0.1810818643 + 0.0007797759j$, $-0.1758809319 + 0.0017785790j$, $-0.1691365448 + 0.0040822006j$, $0.1751626247 - 0.0674547053j$, $-0.1672851831 + 0.0361089156j$, $0.1834866359 + 0.1047870307j$, $0.0128562859 + 0.0092804006j$, $0.2498052405 + 0.0000000000j$, $-0.1651005100 + 0.0000002178j$, $-0.1649793455 - 0.0000815845j$, $0.1831973199 - 0.0488289615j$, $0.0000022598 - 0.0000000781j$, $-0.1786837248 - 0.0756559131j$, $-0.0101612662 - 0.0083686166j$, $-0.2496552088 - 0.0000000000j$, $-0.2456220068 - 0.0000000000j$, $0.1299429504 + 0.0000554923j$, $0.1788357508 - 0.1161083537j$, $0.1298517712 + 0.0000121142j$, $-0.0535828526 + 0.2213250950j$, $-0.1767803397 - 0.0000005746j$, $0.1915054508 + 0.0029643484j$)

$-0.7071067812 - 0.7071067812j$: Bezárt szög: -135.0000000000 360 / bezárt szög: -2.6666666667

- ($-0.1767766953 - 0.0000000000j$, $0.0000000000 + 0.1767766953j$, $0.1767766953 - 0.0000000000j$, $0.1767766953 + 0.0000000000j$, $0.0121747566 + 0.2319196318j$, $-0.0909004109 + 0.1666745554j$, $0.0194162500 - 0.0028691516j$, $0.0044410924 - 0.1619714741j$, $-0.1569794070 + 0.0974780809j$, $-0.0001280225 - 0.1719414238j$, $0.1723605011 - 0.0007797759j$, $0.1776501368 + 0.0017785790j$, $0.0353475818 + 0.2333579587j$, $-0.0056920714 - 0.0862640272j$, $-0.1090024520 - 0.0810043647j$, $0.0202771634 - 0.1794722273j$, $-0.0964985487 - 0.1838433698j$, $-0.0080473019 - 0.1438570448j$, $0.0341932927 - 0.2309699030j$, $0.0341762153 + 0.2309025159j$, $0.0181738518 - 0.1019723730j$, $-0.1020621177 - 0.1767780000j$, $0.0182289637 - 0.0898789928j$, $-0.0970888647 + 0.1706648533j$, $-0.0072023125 - 0.1362026447j$, $-0.0374264303 + 0.1350412159j$, $0.1566552408 - 0.0956306700j$, $0.0053941044 + 0.1725318330j$, $0.1567403514 + 0.0956604624j$, $0.1612207416 + 0.0155021643j$, $-0.1767730508 + 0.0000005746j$, $-0.1606489577 + 0.0029643484j$)

$-0.7571151198 - 0.6532814824j$: Bezárt szög: -139.2105290591 360 / bezárt szög: -2.5860112912

- ($0.0000000000 + 0.1767766953j$, $-0.1767766953 + 0.0000000000j$, $0.0000000000 + 0.1767766953j$, $-0.0000000000 - 0.1767766953j$, $-0.2038295784 + 0.0571353495j$, $-0.0160277526 - 0.0184840527j$, $-0.0798197338 + 0.1121289975j$, $-0.2489398333 - 0.0000000000j$, $0.1277689465 + 0.0010184698j$, $0.1759907219 - 0.1185123857j$, $0.1810818643 + 0.0007797759j$, $-0.1758809319 + 0.0017785790j$, $0.1691365448 - 0.0040822006j$, $-0.1751626247 + 0.0674547053j$, $0.1672851831 - 0.0361089156j$, $-0.1834866359 - 0.1047870307j$, $0.0128562859 + 0.0092804006j$, $0.2498052405 - 0.0000000000j$, $0.1651005100 - 0.0000002178j$, $0.1649793455 + 0.0000815845j$, $-0.1831973199 + 0.0488289615j$, $0.0000022598 - 0.0000000781j$, $0.1786837248 + 0.0756559131j$, $-0.0101612662 - 0.0083686166j$, $-0.2496552088 - 0.0000000000j$, $-0.2456220068 - 0.0000000000j$, $-0.1299429504 - 0.0000554923j$, $-0.1788357508 + 0.1161083537j$, $-0.1298517712 - 0.0000121142j$, $0.0535828526 - 0.2213250950j$, $-0.1767803397 - 0.0000005746j$, $0.1915054508 + 0.0029643484j$)

$-0.7571151198 + 0.6532814824j$: Bezárt szög: 139.2105290591   360 / bezárt szög: 2.5860112912

- ($-0.1767766953 + 0.0000000000j$, $-0.0000000000 + 0.1767766953j$, $0.1767766953 + 0.0000000000j$, $0.1767766953 + 0.0000000000j$, $-0.0121747566 - 0.2319196318j$, $-0.0909004109 + 0.1666745554j$, $-0.0194162500 + 0.0028691516j$, $0.0044410924 - 0.1619714741j$, $0.1569794070 - 0.0974780809j$, $0.0001280225 + 0.1719414238j$, $0.1723605011 - 0.0007797759j$, $0.1776501368 + 0.0017785790j$, $-0.0353475818 - 0.2333579587j$, $0.0056920714 + 0.0862640272j$, $0.1090024520 + 0.0810043647j$, $-0.0202771634 + 0.1794722273j$, $-0.0964985487 - 0.1838433698j$, $-0.0080473019 - 0.1438570448j$, $-0.0341932927 + 0.2309699030j$, $-0.0341762153 - 0.2309025159j$, $-0.0181738518 + 0.1019723730j$, $-0.1020621177 - 0.1767780000j$, $-0.0182289637 + 0.0898789928j$, $-0.0970888647 + 0.1706648533j$, $-0.0072023125 - 0.1362026447j$, $-0.0374264303 + 0.1350412159j$, $-0.1566552408 + 0.0956306700j$, $-0.0053941044 - 0.1725318330j$, $-0.1567403514 - 0.0956604624j$, $-0.1612207416 - 0.0155021643j$, $-0.1767730508 + 0.0000005746j$, $-0.1606489577 + 0.0029643484j$)

$-0.7571151198 - 0.6532814824j$: Bezárt szög: -139.2105290591 360 / bezárt szög: -2.5860112912

- $(\ 0.0000000000+0.1767766953j,\ -0.1767766953-0.0000000000j,\ -0.0000000000-0.1767766953j,\ -0.0000000000+0.1767766953j,\ -0.1963801582+0.0062082627j,\ -0.0130866052+0.1285525939j,\ -0.0000048808+0.1074065983j,\ -0.2069898533-0.0127435073j,\ 0.1753789564-0.1201468365j,\ 0.1301118718+0.0026716907j,\ 0.2499214933+0.0000000000j,\ 0.0012510167+0.0025152906j,\ 0.1813084762-0.0653138147j,\ -0.1617367602+0.0040098627j,\ 0.1794858979+0.0834268649j,\ -0.1529977787+0.0118516653j,\ 0.0104971135-0.1364695563j,\ 0.1989070436-0.0026197500j,\ -0.1767767320-0.0631809666j,\ -0.1766522925+0.0631494116j,\ 0.1774674525+0.0122881632j,\ -0.0000018451+0.1443376310j,\ -0.1623684148-0.0145005369j,\ 0.0082966391-0.1373043892j,\ 0.2054473728-0.0074061022j,\ 0.2210753406+0.0173772163j,\ 0.1768074188-0.1198987305j,\ 0.1362062801+0.0031580918j,\ 0.1767846512+0.1199638714j,\ 0.0279570118+0.1818101715j,\ 0.2499999999+0.0000000000j,\ -0.0218188355-0.0041922217j\ )$

$-0.7571151198 + 0.6532814824j$: Bezárt szög: 139.2105290591 360 / bezárt szög: 2.5860112912

- $(\ 0.1767766953+0.0000000000j,\ 0.0000000000-0.1767766953j,\ -0.1767766953+0.0000000000j,\ -0.1767766953-0.0000000000j,\ -0.0007033829+0.1309435856j,\ 0.0909004109+0.1851818100j,\ 0.1790452656+0.0028781700j,\ -0.0135809485+0.1307563837j,\ 0.0650229994-0.2317073230j,\ 0.0021728460+0.0723581084j,\ 0.1723605011-0.0007797759j,\ 0.1776501368+0.0017785790j,\ 0.0853366114+0.1016564218j,\ -0.0017171888-0.2125865376j,\ 0.0451502940+0.2183769236j,\ -0.0293480353+0.0623727971j,\ 0.0964985487-0.1689982096j,\ -0.0043424159+0.1374399940j,\ 0.0825499111-0.0956709060j,\ 0.0825086825+0.0955083589j,\ 0.0045317133-0.2259447210j,\ 0.1020621177-0.1767753906j,\ 0.0085645347-0.2101387176j,\ 0.0970888647+0.1823980729j,\ 0.0032714978+0.1543438162j,\ -0.0128513353-0.1776065290j,\ -0.0648887254+0.2309532098j,\ -0.0078112032-0.0682840594j,\ -0.0649239793-0.2309655767j,\ -0.0220692607-0.0368995348j,\ -0.1767730508+0.0000005746j,\ -0.1606489577+0.0029643484j\ )$

$-0.8660254038 + 0.5000000000j$: Bezárt szög: 150.0000000000 360 / bezárt szög: 2.4000000000

- $(\ 0.0000000000-0.1767766953j,\ 0.1767766953-0.0000000000j,\ -0.0000000000-0.1767766953j,\ -0.0000000000+0.1767766953j,\ 0.0425619526-0.0808015862j,\ 0.2138161401-0.0092536273j,\ 0.0330624163-0.2371964827j,\ -0.0180220409-0.1384485814j,\ -0.0026713756-0.0003724573j,\ 0.2499802383+0.0000000000j,\ 0.1810818643+0.0007797759j,\ -0.1758809319+0.0017785790j,\ -0.0069897819+0.0032749082j,\ 0.2499043146+0.0000000000j,\ 0.0168104505-0.0624732620j,\ -0.2480047307-0.0000000000j,\ 0.2090712226-0.0074225801j,\ 0.0037048860-0.1513783298j,\ -0.0000000555+0.0000003279j,\ 0.0001882936-0.0000480805j,\ 0.2488506637+0.0000000000j,\ 0.2041241002-0.0000013047j,\ -0.2492354442-0.0000000000j,\ 0.2086725985-0.0058666098j,\ 0.0104738102-0.1418690451j,\ 0.0245750950+0.1127820503j,\ -0.0000592024-0.0001186526j,\ -0.2498592256-0.0000000000j,\ -0.0000153190-0.0000067366j,\ -0.0535828526-0.2337317553j,\ -0.1767803397-0.0000005746j,\ 0.1915054508+0.0029643484j\ )$

$-0.8660254038 + 0.5000000000j$: Bezárt szög: 150.0000000000 360 / bezárt szög: 2.4000000000

- $(\ 0.0000000000-0.1767766953j,\ 0.1767766953+0.0000000000j,\ 0.0000000000+0.1767766953j,\ 0.0000000000-0.1767766953j,\ 0.0455720391+0.0075079448j,\ 0.2488000220+0.0000000000j,\ 0.0053132840-0.2234259143j,\ -0.0220724021+0.0064628542j,\ -0.0019621509-0.1699132857j,\ 0.1854923704+0.0010086663j,\ 0.2499214933+0.0000000000j,\ 0.0012510167+0.0025152906j,\ -0.0065280986+0.0923676825j,\ 0.2310719417+0.0008369115j,\ 0.0123474365+0.1179834039j,\ -0.2007358508-0.0106103484j,\ 0.2494966735+0.0000000000j,\ 0.0045375401-0.0087608535j,\ 0.0000000518+0.0893513799j,\ -0.0001758566-0.0893067543j,\ -0.2400239540+0.0039146490j,\ -0.2500000000-0.0000000000j,\ 0.2259173055+0.0013246598j,\ -0.2496531893+0.0000000000j,\ -0.0128277454-0.0027795057j,\ -0.0300982215+0.0355517490j,\ 0.0000434847-0.1695624108j,\ 0.1884686366-0.0028203443j,\ 0.0000112520+0.1696545339j,\ -0.0002846694+0.1987012524j,\ 0.2499999999+0.0000000000j,\ -0.0218188355-0.0041922217j\ )$

$-0.8660254038 - 0.5000000000j$: Bezárt szög: -150.0000000000 360 / bezárt szög: -2.4000000000

- $(\ 0.1767766953-0.0000000000j,\ -0.0000000000-0.1767766953j,\ 0.1767766953-0.0000000000j,\ 0.1767766953+0.0000000000j,\ 0.0746509317+0.1333461357j,\ -0.0065268964+0.1625241751j,\ 0.1890535876+0.0610913794j,\ 0.0978979307+0.1632835369j,\ 0.0018173337-0.1704284939j,\ -0.1548438941+0.0966719619j,\ -0.0061669351-0.0011027697j,\ 0.2499842160+0.0000000000j,\ 0.0039816386+0.0953188811j,\ -0.0365062235-0.2300445699j,\ -0.0344466786+0.1966047128j,\ 0.1369108535+0.0842969531j,\ -0.0118107909-0.1387449123j,\ -0.1070406435+0.1740192295j,\ 0.0000002953+0.0893517822j,\ 0.0000701742-0.0891842746j,\ 0.0264260435+0.2338226838j,\ 0.0000008674+0.1443359375j,\ -0.0409446851+0.2315881854j,\ 0.0017691860-0.1547389097j,\ -0.1003165638-0.1839389934j,\ -0.0797489525+0.1910582029j,\ -0.0000825229-0.1697012950j,\ -0.1517028748+0.0927966417j,\ -0.0000070262+0.1696394999j,\ 0.0162100829-0.1400187415j,\ -0.0000051541-0.0000008125j,\ 0.2490107702-0.0000000000j\ )$

$-0.8660254038 - 0.5000000000j$: Bezárt szög: -150.0000000000 360 / bezárt szög: -2.4000000000

- $(\,-0.1767766953-0.0000000000j,\ -0.0000000000+0.1767766953j,\ -0.1767766953+0.0000000000j,\ -0.1767766953-0.0000000000j,\ -0.0746509317+0.0547019019j,\ -0.0196135016-0.1398575100j,\ -0.2492283636-0.0000000000j,\ -0.0978979307+0.1887705515j,\ 0.0015322673-0.1683839116j,\ -0.1548438941-0.0946546293j,\ -0.0061669351-0.0011027697j,\ 0.2499842160+0.0000000000j,\ -0.0020696028+0.0824034483j,\ -0.0365062235+0.2317183929j,\ 0.0133682861+0.2094708745j,\ 0.1369108535-0.1055176500j,\ -0.0013136774+0.1569264462j,\ 0.1070406435+0.1792587295j,\ -0.0000003105+0.0893516796j,\ -0.0000186670-0.0895321959j,\ 0.0264260435-0.2259933859j,\ -0.0000009778-0.1443391334j,\ -0.0409446851-0.2289388658j,\ 0.0100658251+0.1403687092j,\ 0.1003165638-0.1691267889j,\ 0.0797489525+0.1563037703j,\ 0.0000082899-0.1697466065j,\ -0.1517028748-0.0984373304j,\ -0.0000121821+0.1696512246j,\ -0.1626804579-0.0990082016j,\ -0.0000051541-0.0000008125j,\ 0.2490107702-0.0000000000j\,)$

$-0.9626924199+0.2705980501j$: Bezárt szög: 164.3001425950 360 / bezárt szög: 2.1911119145

- $(\,-0.0000000000+0.1767766953j,\ -0.1767766953-0.0000000000j,\ 0.0000000000+0.1767766953j,\ 0.0000000000-0.1767766953j,\ 0.1436378877+0.0571353495j,\ 0.0160277526+0.0184840527j,\ 0.0330624163+0.2233174853j,\ 0.2489398333+0.0000000000j,\ -0.1315468421-0.0015452039j,\ 0.1775347214+0.1185123857j,\ 0.1810818643+0.0007797759j,\ -0.1758809319+0.0017785790j,\ -0.1592515005-0.0005492190j,\ -0.1782554463-0.0674547053j,\ -0.1435116160-0.0522416188j,\ -0.1672450177+0.1047870307j,\ -0.0128562859-0.0092804006j,\ -0.2498052405+0.0000000000j,\ -0.1651004316-0.0000002459j,\ -0.1652456329-0.0000135884j,\ -0.1687306637-0.0488289615j,\ -0.0000022598+0.0000000781j,\ 0.1737884205-0.0756559131j,\ 0.0101612662+0.0083686166j,\ 0.2496552088+0.0000000000j,\ 0.2456220068+0.0000000000j,\ 0.1298592256-0.0001123078j,\ -0.1745185546-0.1161083537j,\ 0.1298301069+0.0000025872j,\ -0.1293604494-0.1092215233j,\ -0.1767803397-0.0000005746j,\ 0.1915054508+0.0029643484j\,)$

$-0.9626924199-0.2705980501j$: Bezárt szög: -164.3001425950 360 / bezárt szög: -2.1911119145

- $(\,0.1767766953+0.0000000000j,\ 0.0000000000-0.1767766953j,\ 0.1767766953-0.0000000000j,\ 0.1767766953+0.0000000000j,\ 0.0309214283-0.2107063073j,\ 0.0065268964-0.1625241751j,\ 0.1634085443-0.0610913794j,\ -0.0978979307-0.1632835369j,\ 0.0003496195-0.0677023175j,\ -0.0641384410-0.2305338224j,\ -0.0061669351-0.0011027697j,\ 0.2499842160+0.0000000000j,\ -0.0010547783-0.2118549554j,\ 0.0881338198-0.0976547240j,\ 0.0533522901+0.0996318389j,\ 0.0567103324-0.2335214449j,\ 0.0118107909+0.1387449123j,\ 0.1070406435-0.1740192295j,\ 0.0000001438-0.2157141394j,\ -0.0000437751+0.2158019203j,\ -0.0637981127+0.0857802275j,\ -0.0000008674-0.1443359375j,\ 0.0988492141+0.0921802636j,\ -0.0017691860+0.1547389097j,\ 0.1003165638+0.1839389934j,\ 0.0797489525-0.1910582029j,\ 0.0000942466-0.0703566581j,\ -0.0628373882-0.2320080494j,\ -0.0000102020+0.0702835628j,\ -0.2462749928-0.0000000000j,\ -0.0000051541-0.0000008125j,\ 0.2490107702-0.0000000000j\,)$

$-0.9626924199-0.2705980501j$: Bezárt szög: -164.3001425950 360 / bezárt szög: -2.1911119145

- $(\,-0.0000000000+0.1767766953j,\ -0.1767766953-0.0000000000j,\ -0.0000000000-0.1767766953j,\ -0.0000000000+0.1767766953j,\ 0.1319315624-0.0168261001j,\ 0.0130866052-0.1285525939j,\ -0.0075092376+0.2085653600j,\ 0.2069898533+0.0127435073j,\ -0.1781538568-0.1201468365j,\ 0.1322139541-0.0012452211j,\ 0.2499214933+0.0000000000j,\ 0.0012510167+0.0025152906j,\ -0.1720763506-0.0653138147j,\ -0.1650483137-0.0051934343j,\ -0.1620239857+0.0834268649j,\ -0.1308855840-0.0268569640j,\ -0.0104971135+0.1364695563j,\ -0.1989070436+0.0026197500j,\ 0.1767766586-0.0631809666j,\ 0.1769009913+0.0631494116j,\ 0.1619776786-0.0178243129j,\ 0.0000018451-0.1443376310j,\ -0.1571269026+0.0126271850j,\ -0.0082966391+0.1373043892j,\ -0.2054473728+0.0074061022j,\ -0.2210753406-0.0173772163j,\ -0.1767459221-0.1198987305j,\ 0.1303286218-0.0071466610j,\ -0.1767687386+0.1199638714j,\ -0.0283595952+0.0991958345j,\ 0.2499999999+0.0000000000j,\ -0.0218188355-0.0041922217j\,)$

$-0.9626924199+0.2705980501j$: Bezárt szög: 164.3001425950 360 / bezárt szög: 2.1911119145

- $(\,-0.1767766953-0.0000000000j,\ -0.0000000000+0.1767766953j,\ 0.1767766953-0.0000000000j,\ 0.1767766953+0.0000000000j,\ 0.0131694902+0.0467374372j,\ 0.0909004109-0.1666745554j,\ -0.2337919930-0.0069394987j,\ -0.0044410924+0.1619714741j,\ -0.0650229994-0.2302055577j,\ 0.0029448458-0.0696116055j,\ 0.1723605011-0.0007797759j,\ 0.1776501368+0.0017785790j,\ -0.0853366114+0.0895940684j,\ -0.0032635996+0.2143787375j,\ -0.0451502940+0.2278272424j,\ -0.0212272262-0.0912637717j,\ 0.0964985487+0.1838433698j,\ 0.0080473019+0.1438570448j,\ -0.0825499111-0.0956708102j,\ -0.0825086825+0.0958332995j,\ 0.0117650414+0.2175617158j,\ 0.1020621177+0.1767780000j,\ 0.0061168826+0.2073020316j,\ 0.0970888647-0.1706648533j,\ 0.0072023125+0.1362026447j,\ 0.0374264303-0.1350412159j,\ 0.0648887254+0.2309864915j,\ -0.0056526051+0.0759635901j,\ 0.0649239793-0.2309741885j,\ 0.1300100938-0.0366816583j,\ -0.1767730508+0.0000005746j,\ -0.1606489577+0.0029643484j\,)$

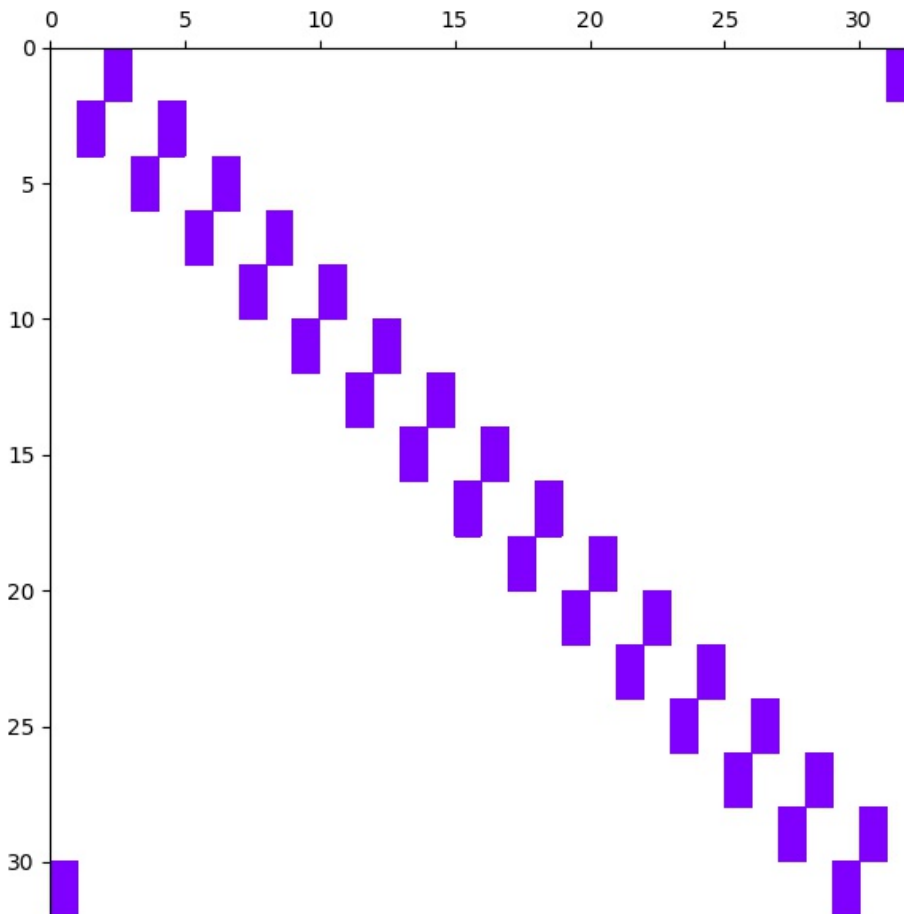$-1.0000000000+0.0000000000j$: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- $\big($ 0.1767766953+0.0000000000j, 0.0000000000−0.1767766953j, −0.1767766953+0.0000000000j, −0.1767766953−0.0000000000j, −0.0179210888−0.1970403032j, −0.0909004109−0.1851818100j, 0.1515865416+0.0069357631j, 0.0135809485−0.1307563837j, −0.1569794070−0.0938524989j, 0.0019917948−0.1708037851j, 0.1723605011−0.0007797759j, 0.1776501368+0.0017785790j, 0.0353475818−0.2283615684j, 0.0063326157−0.0905907804j, −0.1090024520+0.1038194524j, −0.0006717959−0.1914392608j, −0.0964985487+0.1689982096j, 0.0043424159−0.1374399940j, 0.0341932927+0.2309698633j, 0.0341762153−0.2310371108j, −0.0211699944−0.0817340081j, −0.1020621177+0.1767753906j, −0.0172151130−0.0830306270j, −0.0970888647−0.1823980729j, −0.0032714978−0.1543438162j, 0.0128513353+0.1776065290j, 0.1566552408+0.0957110193j, −0.0001827876+0.1757127987j, 0.1567403514−0.0956812533j, 0.2059312986−0.0149761638j, −0.1767730508+0.0000005746j, −0.1606489577+0.0029643484j $\big)$

−1.0000000000 − 0.0000000000j: Bezárt szög: −180.0000000000   360 / bezárt szög: −2.0000000000

- $\big($ 0.0000000000−0.1767766953j, 0.1767766953+0.0000000000j, −0.0000000000−0.1767766953j, −0.0000000000+0.1767766953j, −0.2456966016−0.0000000000j, −0.2138161401+0.0092536273j, −0.0798197338−0.0786221338j, 0.0180220409+0.1384485814j, −0.1833639526−0.0018127910j, 0.0010917725+0.1676018232j, 0.1810818643+0.0007797759j, −0.1758809319+0.0017785790j, 0.2322054137−0.0024981952j, 0.0021869551+0.0953953591j, −0.2197665242−0.0114075439j, 0.0114845584+0.1481912400j, −0.2090712226+0.0074225801j, −0.0037048860+0.1513783298j, 0.2334873250+0.0000000198j, 0.2335043215+0.0000672974j, −0.0102294707+0.0690545796j, −0.2041241002+0.0000013047j, 0.0034615028+0.1069936183j, −0.2086725985+0.0058666098j, −0.0104738102+0.1418690451j, −0.0245750950−0.1127820503j, 0.1837078805−0.0000401746j, 0.0030527187−0.1642020085j, 0.1836228169+0.0000103955j, −0.1293604494+0.0792691958j, −0.1767803397−0.0000005746j, 0.1915054508+0.0029643484j $\big)$

6. Szimulációs mátrix

6.1. 3. szimuláció mátrixa

24. ábra. 3. szimuláció mátrixa

6.2. Érme sajátértékek, sajátvektorok

$1.0000000000 - 0.0000000000j$: Bezárt szög: -0.0000000000 360 / bezárt szög: $-495455545029229184.0000000000$

- $\left(\ 0.9238795325 + 0.0000000000j,\ -0.3826834324 + 0.0000000000j\ \right)$

$-1.0000000000 - 0.0000000000j$: Bezárt szög: -180.0000000000 360 / bezárt szög: -2.0000000000

- $\left(\ 0.3826834324 - 0.0000000000j,\ 0.9238795325 + 0.0000000000j\ \right)$