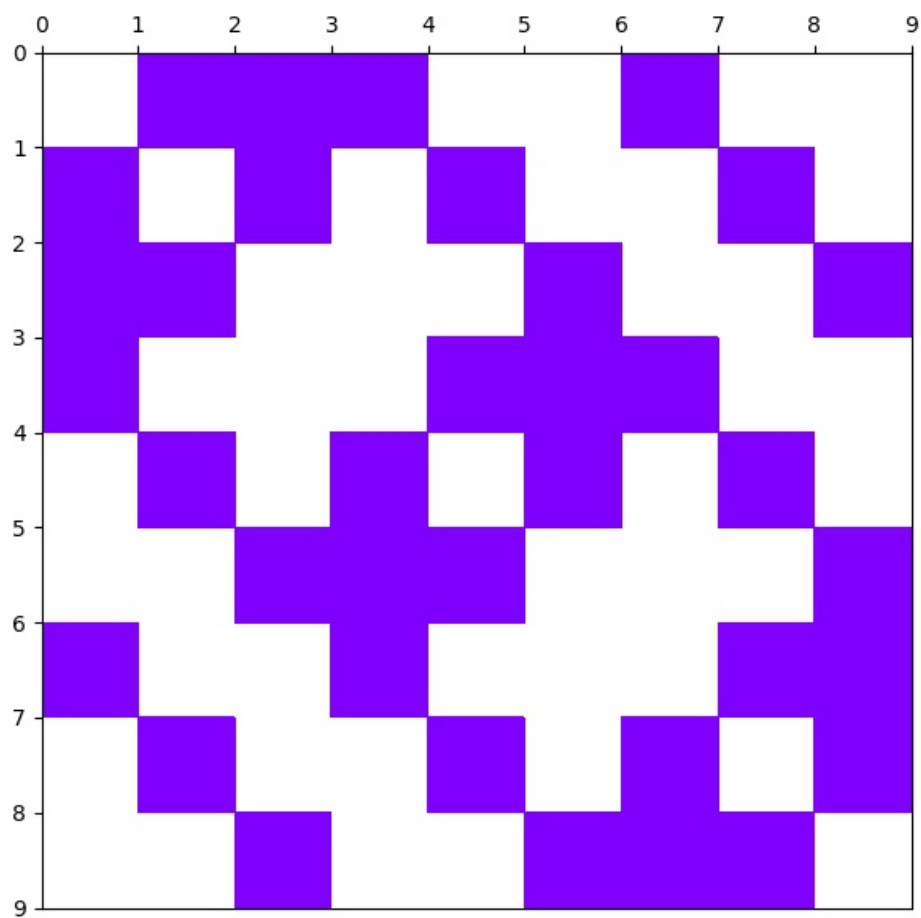


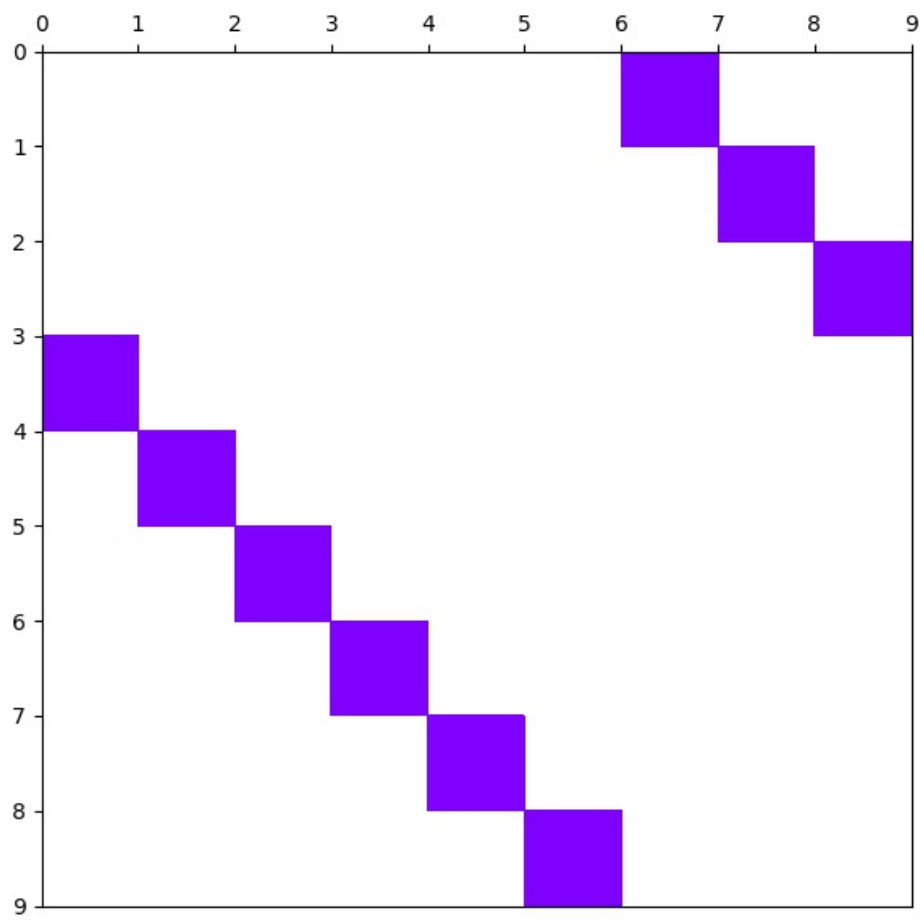
1. Gráf

1.1. Szomszédossági mátrix



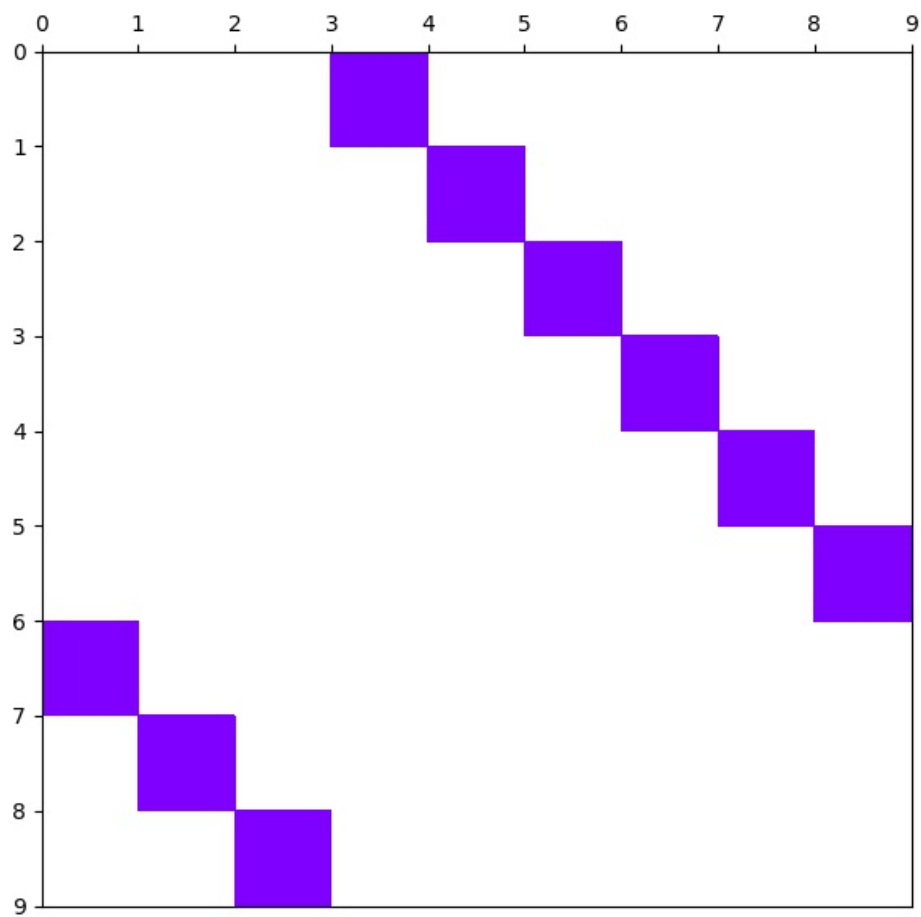
1. ábra. Gráf szomszédossági mátrixa

1.2. Érme oldal



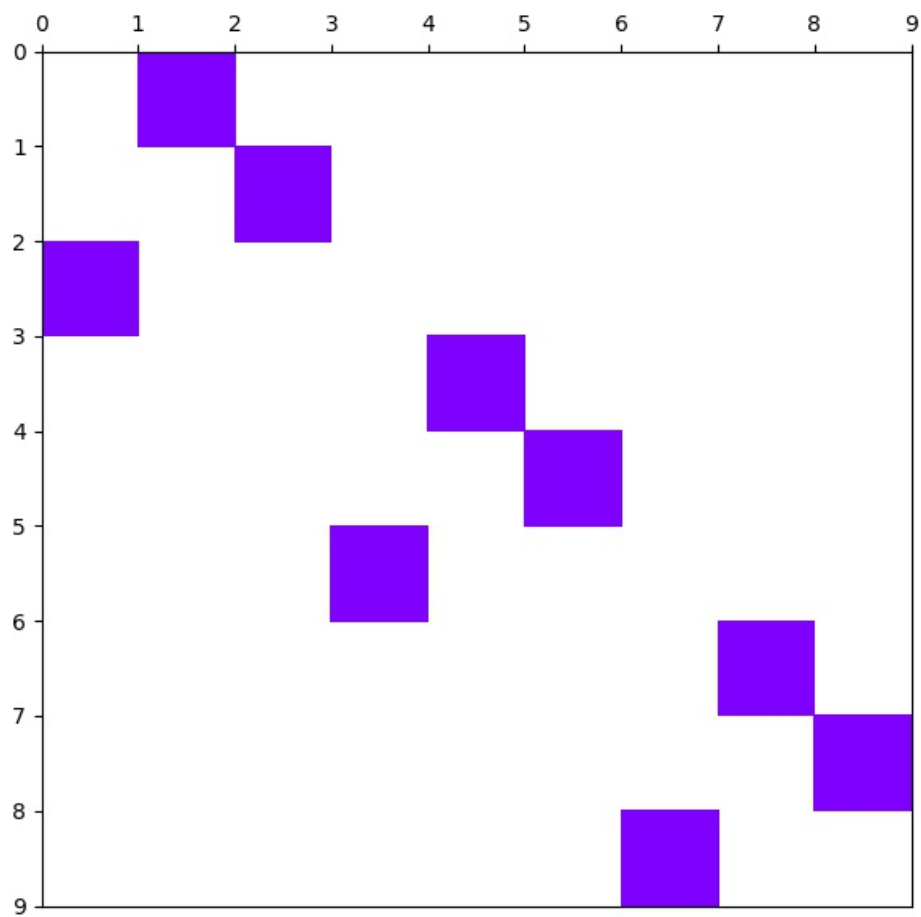
2. ábra. 0. érmeoldal szomszédossági mátrixa

1.3. Érme oldal



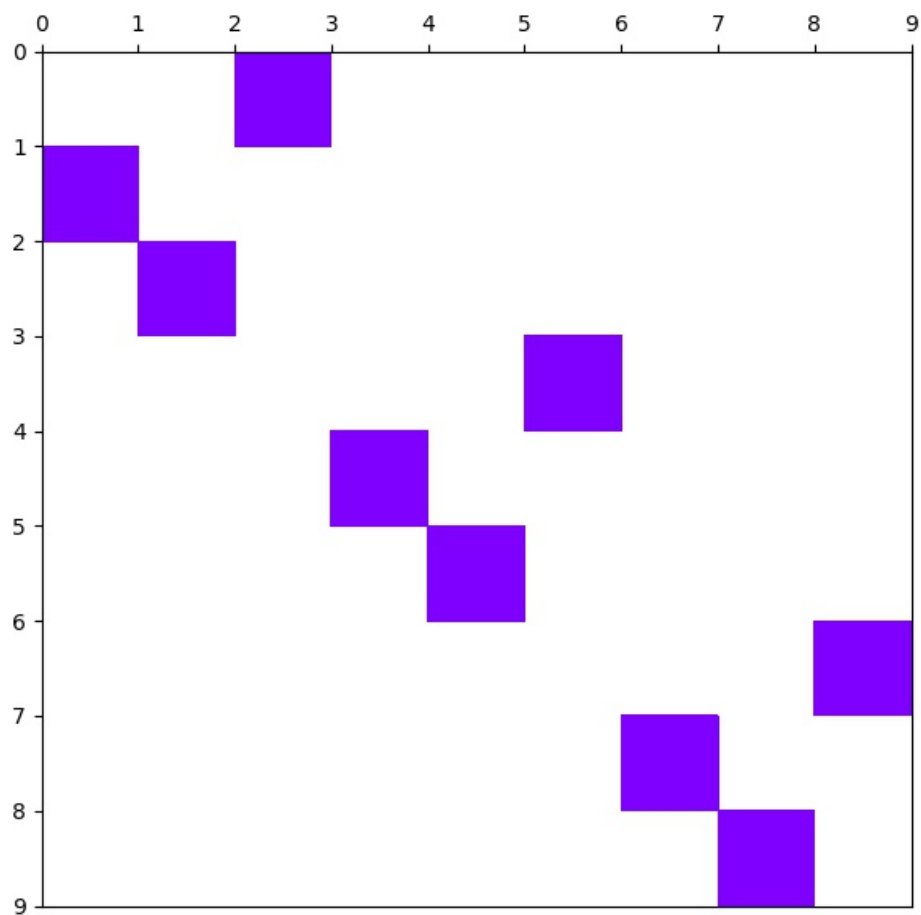
3. ábra. 1. érmeoldal szomszédossági mátrixa

1.4. Érme oldal



4. ábra. 2. érmeoldal szomszédossági mátrixa

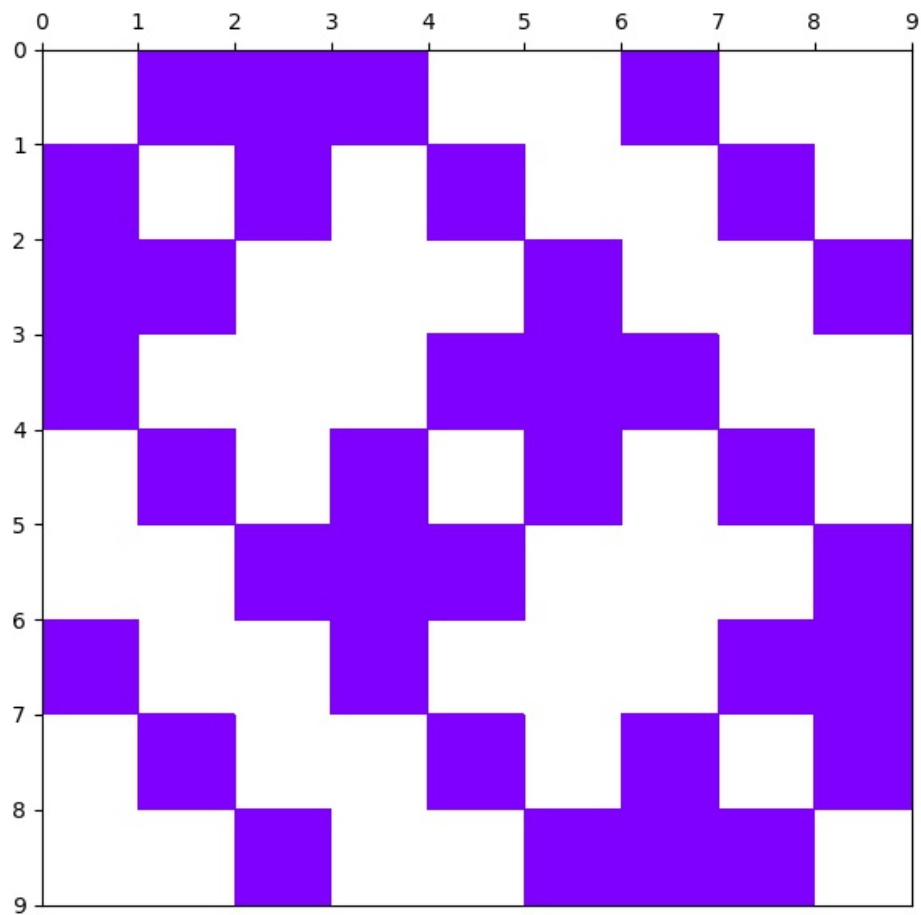
1.5. Érme oldal



5. ábra. 3. érmeoldal szomszédossági mátrixa

1.6. Részgráf

Írányítatlan élekből álló grid.

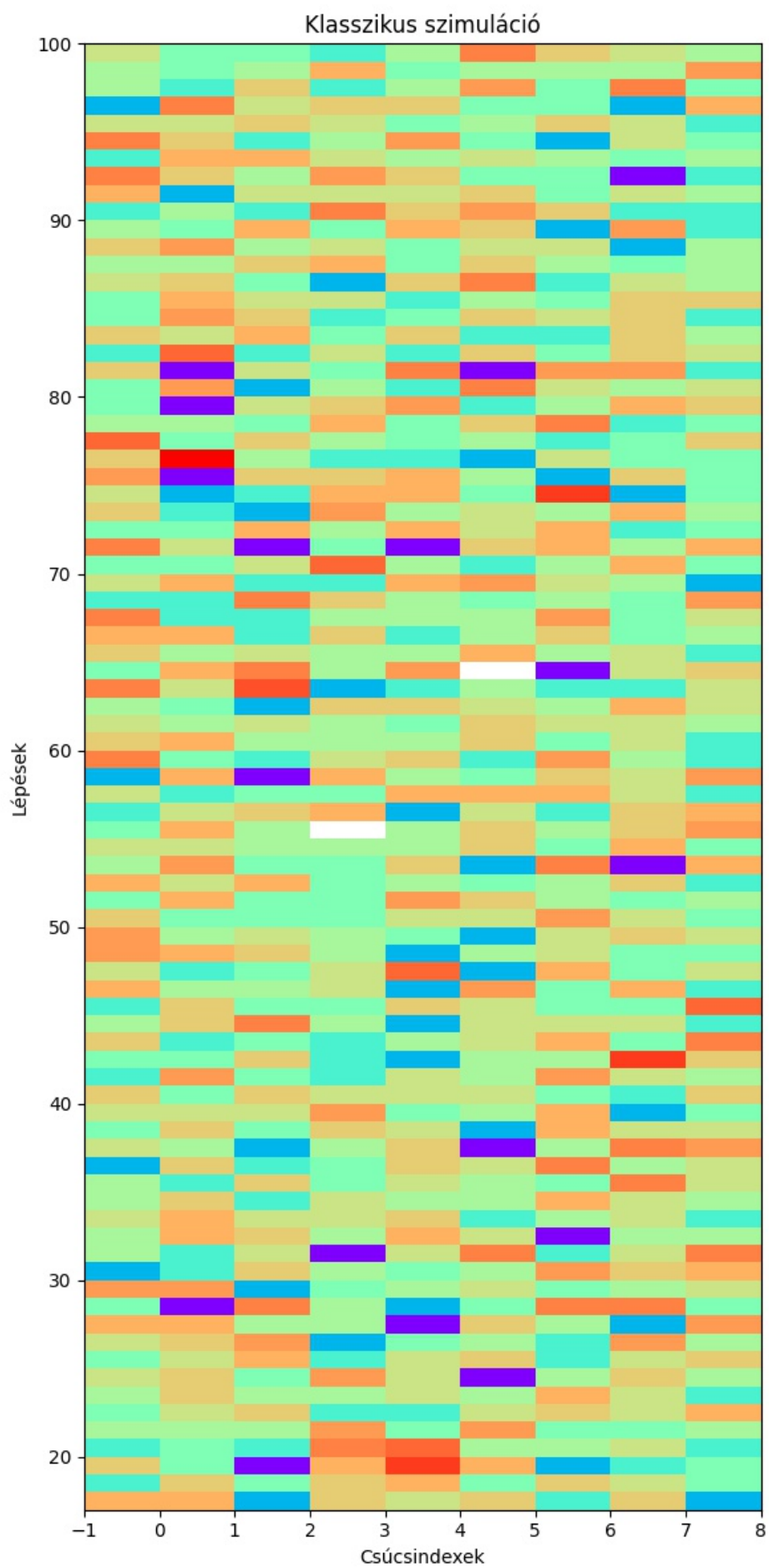


6. ábra. 0. részgráf szomszédossági mátrixa

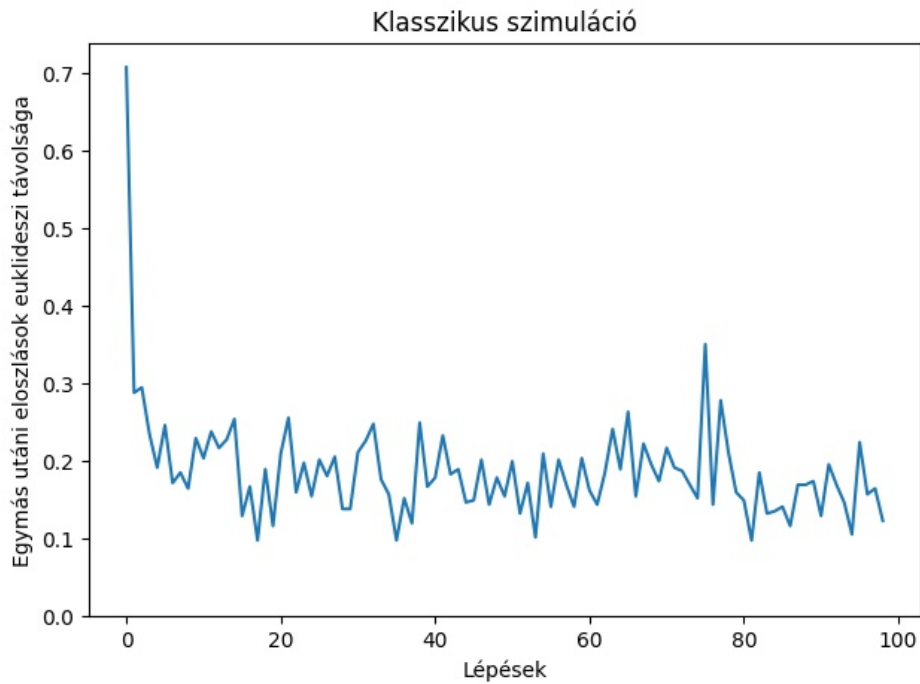
2. Szimulációk

2.1. Klasszikus szimuláció

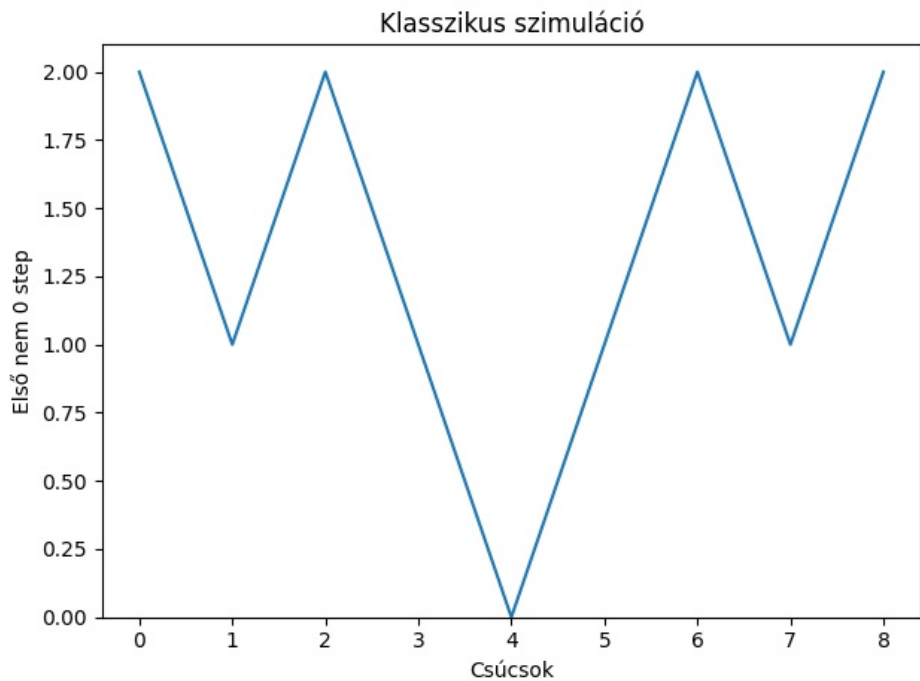
Kezdőcsúcs: 4 Bolyongók: 50 Lépésszám: 100



8. ábra. 0. szimuláció levágva az elejét



9. ábra. 0. szimuláció mixing time



10. ábra. 0. szimuláció hitting time

2.2. Sajátértékek, sajátvektorok

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

- $(-0.3333333333 + 0.0000000000j, -0.1666666667 + 0.0000000000j, 0.3333333333 + 0.0000000000j, -0.1056715766 + 0.0000000000j, -0.6348110543 + 0.0000000000j, -0.0859290163 + 0.0000000000j, -0.2142033022 - 0.3277361233j, -0.2142033022 + 0.3277361233j, -0.1683299704 + 0.0000000000j)$

$0.2500000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: $23104363748804248.0000000000$

- $(-0.3333333333 + 0.0000000000j, -0.1666666667 + 0.0000000000j, 0.3333333333 + 0.0000000000j, -0.2785887019 + 0.0000000000j, -0.1056715766 + 0.0000000000j, -0.6348110543 + 0.0000000000j, -0.0859290163 + 0.0000000000j, -0.2142033022 - 0.3277361233j, -0.2142033022 + 0.3277361233j, -0.1683299704 + 0.0000000000j)$

$0.0000000000j, -0.0705345616+0.0000000000j, -0.4517338243+0.0000000000j, -0.0370263637+0.3502956894j,$
 $-0.0370263637 - 0.3502956894j, -0.2641988373 + 0.0000000000j$)

$0.2500000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: inf

- $(-0.3333333333+0.0000000000j, -0.1666666667+0.0000000000j, 0.3333333333+0.0000000000j, 0.5859969247+0.0000000000j, 0.4937419311 + 0.0000000000j, 0.0882263543 + 0.0000000000j, -0.1253047744 - 0.0487146821j, -0.1253047744 + 0.0487146821j, 0.1370606980 + 0.0000000000j)$
- $(-0.3333333333+0.0000000000j, -0.1666666667+0.0000000000j, 0.3333333333+0.0000000000j, -0.2785887019+0.0000000000j, -0.0705345616 + 0.0000000000j, 0.4540311623 + 0.0000000000j, 0.4696884095 + 0.0000000000j, 0.4696884095 - 0.0000000000j, 0.2329295649 + 0.0000000000j)$

$0.2500000000 - 0.0000000000j$: Bezárt szög: -0.0000000000 360 / bezárt szög: $-23104363748804248.0000000000$

- $(0.1666666667 + 0.0000000000j, 0.3333333333 + 0.0000000000j, 0.3333333333 + 0.0000000000j, 0.3842602785 + 0.0000000000j, -0.2468709656 + 0.0000000000j, 0.4831323651 + 0.0000000000j, -0.2554851074 + 0.3277361233j, -0.2554851074 - 0.3277361233j, -0.3750904301 + 0.0000000000j)$

$-0.5000000000 + 0.0000000000j$: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

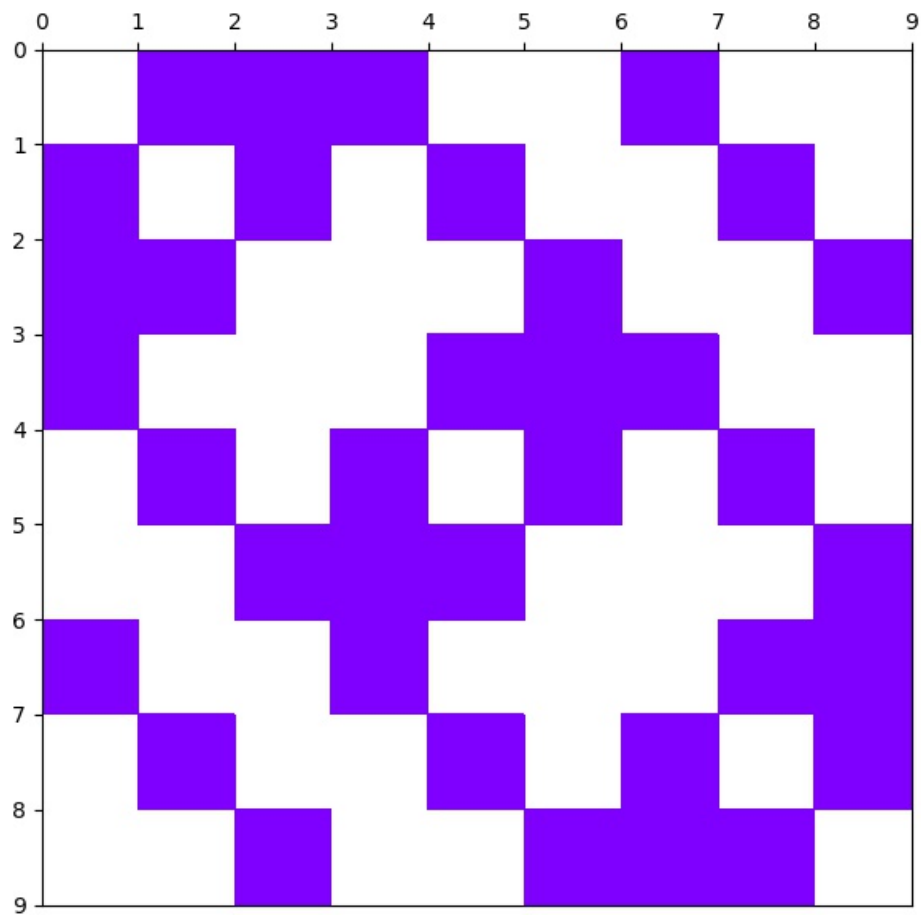
- $(0.1666666667+0.0000000000j, 0.3333333333+0.0000000000j, 0.3333333333+0.0000000000j, -0.3074082228+0.0000000000j, 0.3174055271 + 0.0000000000j, 0.1173275571 + 0.0000000000j, 0.1623311382 - 0.3015810072j, 0.1623311382 + 0.3015810072j, -0.4709592970 + 0.0000000000j)$

$-0.5000000000 + 0.0000000000j$: Bezárt szög: 180.0000000000 360 / bezárt szög: 2.0000000000

- $(0.6666666667+0.0000000000j, -0.6666666667+0.0000000000j, 0.3333333333+0.0000000000j, -0.0768520557+0.0000000000j, 0.1410691232 + 0.0000000000j, -0.0022973380 + 0.0000000000j, 0.0931539692 - 0.0261551160j, 0.0931539692 + 0.0261551160j, 0.0312692724 + 0.0000000000j)$
- $(0.1666666667 + 0.0000000000j, 0.3333333333 + 0.0000000000j, 0.3333333333 + 0.0000000000j, 0.3842602785 + 0.0000000000j, -0.2468709656 + 0.0000000000j, -0.5713587194 + 0.0000000000j, 0.2512296659 - 0.0225595661j, 0.2512296659 + 0.0225595661j, 0.2380297321 + 0.0000000000j)$
- $(0.1666666667+0.0000000000j, 0.3333333333+0.0000000000j, 0.3333333333+0.0000000000j, -0.3074082228+0.0000000000j, 0.3174055271+0.0000000000j, -0.0313985409+0.0000000000j, -0.3443836351+0.0487146821j, -0.3443836351 - 0.0487146821j, 0.6392892674 + 0.0000000000j)$

3. Szimulációs mátrix

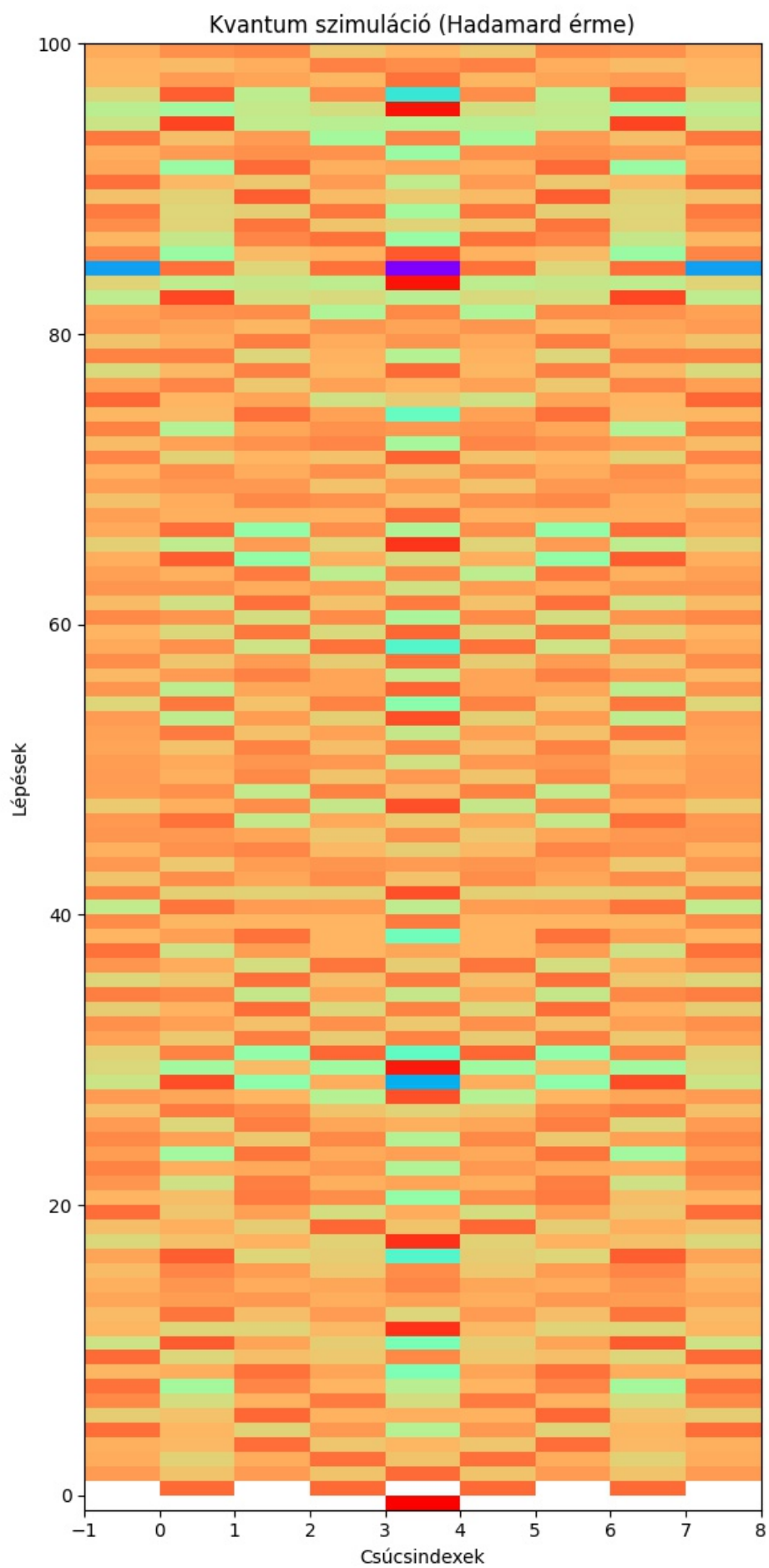
3.1. 0. szimuláció mátrixa



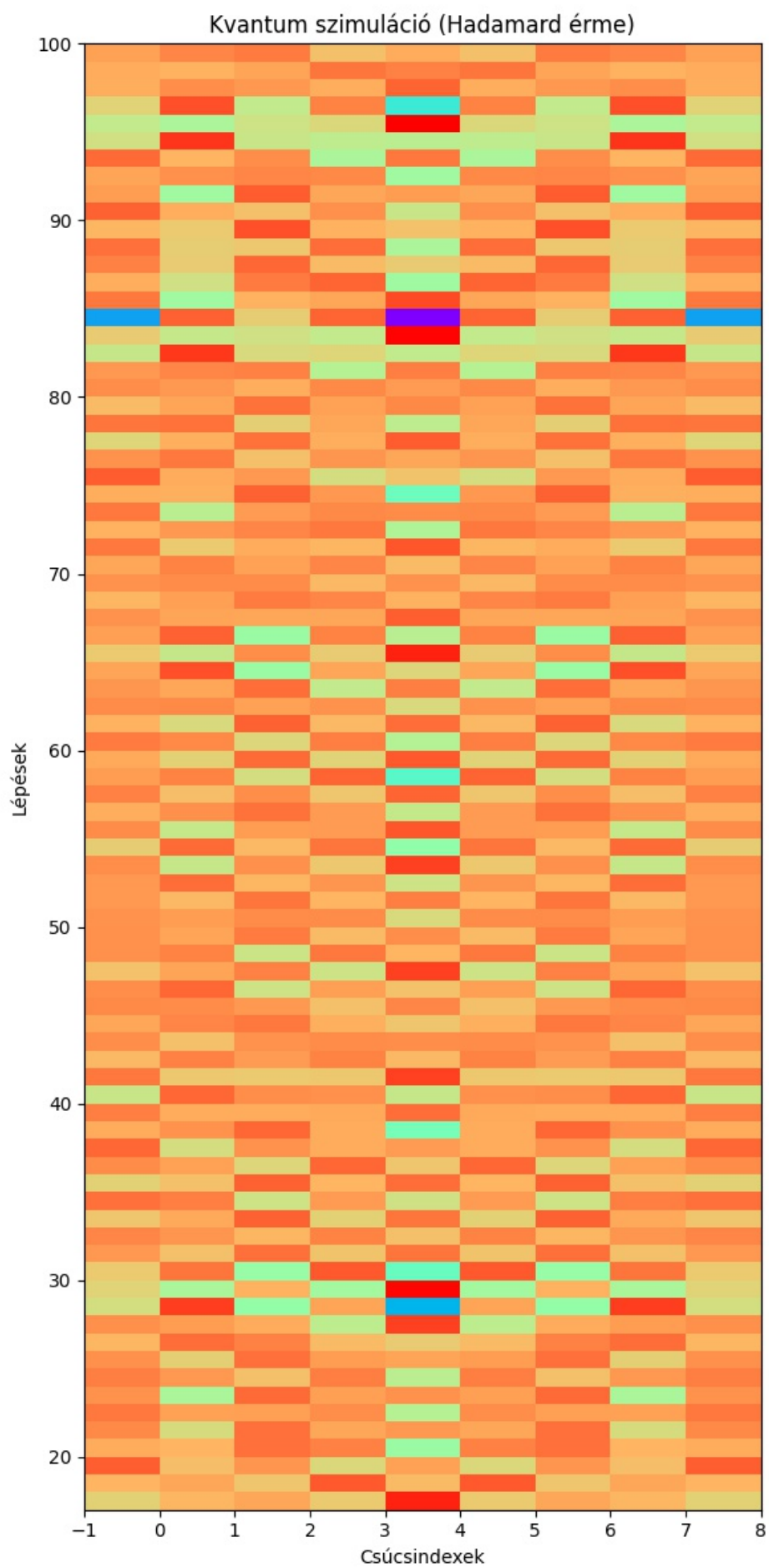
11. ábra. 0. szimuláció mátrixa

3.2. Kvantum szimuláció (Hadamard érme)

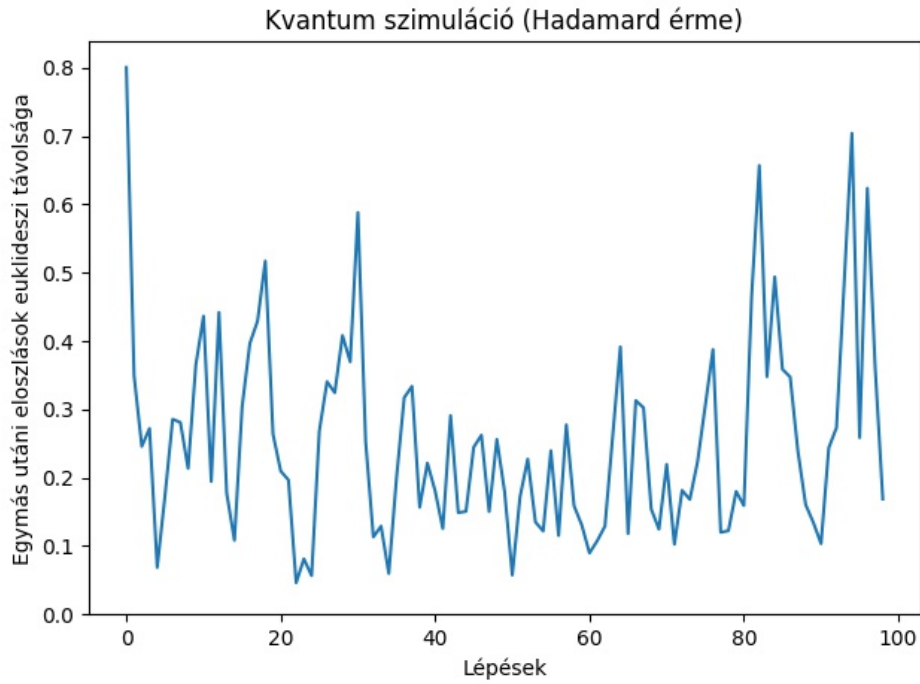
Kezdőcsúcs: 4 Bolyongók: 1 Lépésszám: 100



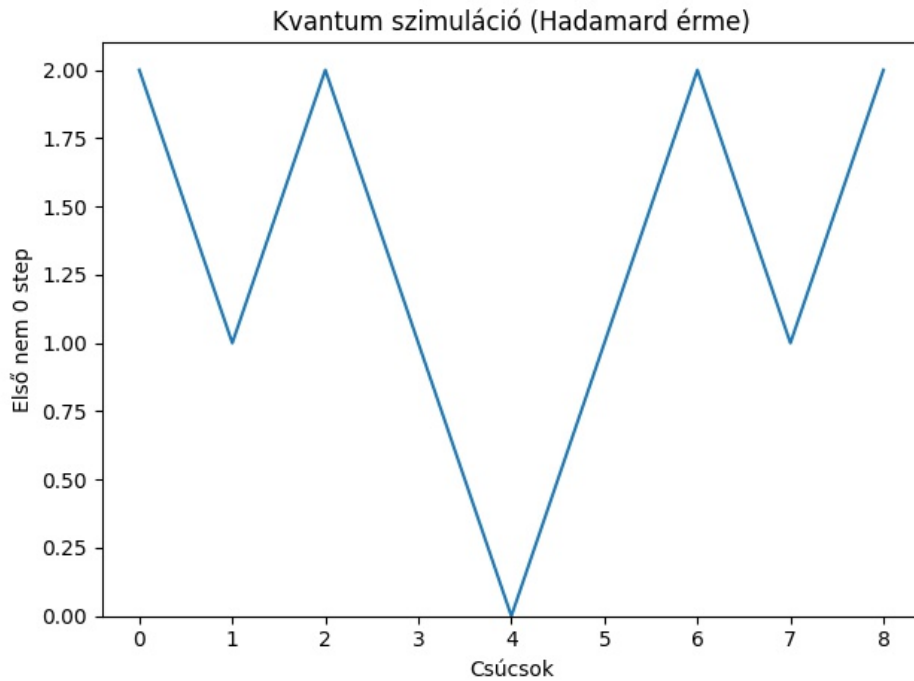
12. ábra. 1. szimuláció



13. ábra. 1. szimuláció levágva az elejét



14. ábra. 1. szimuláció mixing time



15. ábra. 1. szimuláció hitting time

3.3. Sajátértékek, sajátvektorok

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

- $(-0.1299356188 - 0.0000000000j, 0.2106915710 - 0.0000000000j, -0.1078697594 + 0.2111599529j, 0.0425182740 - 0.0549264963j, -0.0681378143 - 0.1669025584j, 0.2129331773 - 0.0124279267j, 0.0306820257 + 0.0543256026j, -0.1208770700 - 0.0058970406j, -0.1076730212 - 0.2105770538j, -0.0729095335 - 0.0001290205j, -0.0475526103 + 0.0927528583j, 0.2229222601 + 0.0071869326j, -0.0598124005 + 0.0917659084j, -0.1052973752 + 0.1964286537j, -0.0506300306 + 0.1698746301j, -0.0764159004 + 0.0009554626j, -0.0946742248 - 0.1720099663j, 0.0530793711 - 0.1680209439j, 0.2883757423 + 0.0012239228j, 0.0446882648 + 0.2035533792j, -0.0506251076 - 0.0228961294j, -0.0203633477 - 0.0039136943j, 0.1360827635 - 0.2357022604j, 0.1820991661 - 0.0029341171j, 0.1053868201 -$

0.1321440698j, 0.0762680055 + 0.1404686975j, 0.1359384393 - 0.2354522836j, 0.0073274849 - 0.0187982572j, -0.0093868589 + 0.0077156597j, 0.0020645170 + 0.0079159355j, 0.0062212867 + 0.0002911376j, 0.0230513990 - 0.0000000000j, 0.2361936681 + 0.0000000000j, 0.2709907883 + 0.0000000000j, 0.0162090657 + 0.0016656859j, 0.0455907342 - 0.0000000000j)

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

- (0.2704140617-0.0000000000j, -0.1122713706-0.1944597181j, 0.0019830916+0.0010673413j, 0.0085280065+0.0015466740j, -0.0736668269-0.1804454071j, -0.1058250383+0.1970818898j, 0.0146884042+0.0136116363j, 0.2701387659 + 0.0000000000j, 0.0021878795 - 0.0025663396j, 0.0012640776 - 0.0001631995j, 0.2462380352 + 0.0000000000j, -0.0075684569 - 0.0012327584j, -0.1231335379 - 0.2132735437j, 0.0034458260 - 0.0072078294j, -0.0645331552+0.1823299027j, -0.0025335752+0.0012085753j, 0.0197453615+0.1474118767j, -0.0504822473-0.1613109617j, -0.0076206640+0.0010205283j, 0.0728051878 - 0.1266685554j, -0.0255801025+0.0935886943j, -0.1712619576 - 0.0099338022j, 0.2721655270+0.0000000000j, -0.1506227428+0.0506067078j, 0.1851382353 - 0.0340548969j, -0.1856153379-0.0560029816j, -0.1359384393-0.2354522836j, -0.0126160259-0.0157449167j, 0.0019885278 + 0.0119870881j, -0.0058231427 + 0.0057458919j, 0.0028585108 + 0.0055333611j, 0.1669096689 - 0.0000000000j, 0.0494805304 - 0.0000000000j, 0.1414030028 - 0.0000000000j, -0.2121067553 + 0.0054505651j, 0.3135995791 - 0.0000000000j)

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

- (0.0649678094-0.1591379828j, 0.0914946152+0.0792366611j, -0.0818618326+0.0385561179j, 0.2020935979+0.0576754666j, 0.2384838329 - 0.0000000000j, 0.0767998241 - 0.0960383823j, 0.2084267781 + 0.0000000000j, 0.0662366023+0.1550520372j, -0.0808726704-0.0389078388j, -0.1011518294+0.0795974364j, 0.1029513956 - 0.0301489358j, -0.0864492826+0.1775402560j, -0.0208346193 - 0.1030137273j, 0.1972941838+0.0138837936j, 0.2474239653 + 0.0000000000j, -0.0980547129 - 0.0759633005j, 0.0644800040 - 0.1110959835j, 0.0751591356 - 0.0369365723j, 0.2969176695+0.0000000000j, -0.1122825465 - 0.1850090696j, -0.1522722657 - 0.0905034729j, 0.0498567417 + 0.0275663185j, -0.0680422076 - 0.1178520665j, 0.0600419517 - 0.1056287376j, 0.0006763864 - 0.0669382582j, -0.1242231227 - 0.1845647703j, 0.1423895637 - 0.0061079180j, -0.0318733617+0.1974026142j, -0.1463775880 - 0.1452472890j, -0.0652608932 - 0.1789928570j, 0.1420138141 - 0.0780169650j, 0.1590649538 + 0.0000000000j, -0.1494576671-0.0000000000j, -0.1357751577+0.0000000000j, -0.1323984527 - 0.0037848792j, -0.0172396494 - 0.0000000000j)

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

- (0.0649678094 + 0.0000000000j, 0.0526728927 + 0.0912321264j, 0.2629609265 + 0.0000000000j, 0.0073397489 + 0.1970988130j, 0.0340701092 + 0.0834504571j, 0.0335890137 - 0.0863099677j, 0.0646630490 - 0.1904754978j, 0.0662618387 + 0.0117631731j, 0.2629982184 - 0.0000000000j, 0.0365047362 + 0.1688522138j, -0.0470388797 - 0.0017327213j, 0.2418455486 + 0.0000000000j, 0.0212808752 + 0.0442710934j, -0.1209615821 + 0.2095116059j, 0.0225159381 - 0.0642943074j, 0.0385779993 - 0.1692511388j, -0.1016278881 + 0.1679952670j, -0.1720500913 + 0.0380423882j, 0.0076206640 - 0.0010205283j, 0.1539382650 - 0.1404778622j, 0.0255801025 - 0.0935886943j, 0.1712619576 + 0.0099338022j, 0.1360817327 - 0.0000006448j, -0.0885085631 + 0.1591695624j, 0.0617467114 + 0.1573396983j, -0.1597834632 - 0.0041843185j, -0.0602469405 - 0.1216166432j, -0.1039939600+0.1263044481j, -0.0000606715 + 0.0927497250j, -0.1175025140 - 0.1460140199j, 0.0110464766 + 0.1593095649j, 0.1973230369 + 0.0000000000j, 0.1239914717 + 0.0000000000j, 0.1290282583 + 0.0000000000j, 0.2121067553 - 0.0054505651j, -0.2568974095 + 0.0000000000j)

0.9013878189 - 0.4330127019j: Bezárt szög: -25.6589062733 360 / bezárt szög: -14.0302161038

- (-0.1299356188+0.0000000000j, -0.1829892305+0.0000000000j, 0.0645416202-0.1301781522j, -0.0969281052+0.1244765099j, -0.0681391568-0.1669045214j, -0.1888734404+0.0182780668j, -0.0599437398-0.1384180251j, -0.1352713378+0.0036123744j, 0.0642624232+0.1309825848j, 0.2027196321 - 0.0002106203j, -0.0787684485 + 0.1434950347j, 0.1534029255 + 0.0026470403j, -0.0871098052 + 0.1428334569j, -0.0745996560 + 0.1337927748j, -0.0843399210 + 0.1653037561j, 0.1991899199 + 0.0015597503j, 0.0568932456 + 0.0905125932j, 0.0464087085 - 0.1624167776j, 0.2969176695 + 0.0000000000j, 0.0311494693 + 0.1988183764j, -0.1522722657 - 0.0905034729j, 0.0498567417+0.0275663185j, -0.0680411768+0.1178508387j, -0.1221561314 - 0.0029341171j, 0.1227151375 - 0.1244563370j, 0.0983912480 + 0.1327461071j, -0.0692403745 + 0.1155087252j, 0.0521770875 + 0.0741515068j, -0.1349415297 - 0.2337255855j, 0.0443539611 - 0.0351488807j, 0.1276045616 - 0.2320843063j, 0.1590649538 + 0.0000000000j, -0.1494576671+0.0000000000j, -0.1357751577-0.0000000000j, -0.1323984527 - 0.0037848792j, -0.0172396494 - 0.0000000000j)

0.9013878189 + 0.4330127019j: Bezárt szög: 25.6589062733 360 / bezárt szög: 14.0302161038

- $(-0.1299356188+0.0000000000j, -0.1053457855+0.1824642528j, -0.1078697594+0.2111599529j, 0.0263086041+0.0642851536j, -0.0681378143-0.1669025584j, -0.1172294890-0.1781915775j, 0.0317063391-0.0537342150j, -0.1208770700-0.0058970406j, -0.1076730212-0.2105770538j, -0.0729095335-0.0001290205j, -0.0565500264-0.0875581977j, -0.1176851963+0.1894628740j, 0.1093778081+0.0059161041j, 0.2227608918-0.0070241250j, -0.0506300306+0.1698746301j, -0.0764159004+0.0009554626j, 0.1817616912+0.0205833903j, -0.1200498250+0.2079323963j, 0.0006748844+0.0000369003j, 0.0702630467-0.0044518673j, 0.2095421542-0.0676073435j, 0.2088067106-0.0314800128j, 0.1360827635+0.2357022604j, -0.0900134691-0.1549299622j, -0.1213851371+0.2102452248j, 0.0435814554+0.0671166580j, -0.2718768786+0.0000000000j, -0.0199435107+0.0030533406j, 0.0113753867+0.0042714284j, -0.0078876598-0.0021700436j, -0.0033627759+0.0052422236j, 0.2718430578-0.0000000000j, 0.3065610865-0.0000000000j, -0.0582662967-0.0000000000j, -0.0698069133+0.0022317617j, 0.0498859013-0.0000000000j)$

0.9013878189 + 0.4330127019j: Bezárt szög: 25.6589062733 360 / bezárt szög: 14.0302161038

- $(-0.0324839047-0.1258096219j, -0.0665240630+0.1704687875j, -0.0587575800-0.1337902020j, -0.0265635627-0.1693928162j, -0.1786360291+0.0242488803j, -0.0577349543-0.1716823584j, -0.0882953403+0.1500050217j, -0.0387072346+0.1237307124j, -0.0582643051+0.1339787294j, -0.1272793164+0.1549882041j, 0.1067383270-0.1340457463j, 0.1050385038-0.1000705541j, 0.0591338553-0.1590960414j, -0.1388248784+0.0413797997j, -0.1652124455+0.0055746416j, -0.1287868393-0.1583760812j, 0.0428608859-0.1154040126j, -0.1118611433-0.2049575162j, -0.0009212632+0.0002033945j, -0.0286073282+0.0771679593j, 0.1272272606-0.0259813508j, 0.1010418683-0.0215462106j, -0.0680425625+0.1178501621j, 0.0629611002-0.1080738848j, 0.2274483436+0.0111628967j, 0.0319603413-0.0482803913j, -0.0589621788+0.1116260797j, -0.1295064789+0.2243118014j, 0.1328923303-0.1529629486j, -0.1199422144-0.2077460093j, -0.1290006585-0.0727747414j, -0.0152066840-0.0000000000j, -0.0372554707-0.0000000000j, 0.0061873722+0.0000000000j, 0.3607142738+0.0000000000j, 0.2852484943-0.0000000000j)$

0.9013878189 - 0.4330127019j: Bezárt szög: -25.6589062733 360 / bezárt szög: -14.0302161038

- $(-0.1352070309-0.2053786133j, -0.0020968985+0.1308504570j, 0.1002573968+0.0486920053j, 0.0216027805-0.1838769928j, -0.0225640672+0.1144720280j, 0.0072777161-0.1386757576j, -0.0428246221+0.1765960042j, -0.1322712497+0.2094050218j, 0.1013586732-0.0476469271j, -0.0007319777-0.1564547769j, -0.1253294853+0.1933018561j, -0.0787060362+0.0380946137j, -0.1026590953+0.2043595328j, 0.0719188179-0.0497049204j, -0.0251610936-0.1315007897j, 0.0005266894+0.1546688103j, -0.1515674704+0.2625225595j, -0.0081886817-0.0029748802j, -0.0076206640+0.0010205283j, -0.0026687650-0.0140924423j, -0.0255801025+0.0935886943j, -0.1712619576-0.0099338022j, -0.1360837943-0.0000006448j, -0.1521276488+0.2634928169j, 0.0153219306-0.0111628967j, 0.0043736619-0.0230205852j, 0.0756914988+0.1138356403j, -0.0913779341+0.1420493647j, -0.0020491994+0.0807626369j, -0.1116793713-0.1517599118j, 0.0081879657+0.1537762037j, 0.1669096689+0.0000000000j, 0.0494805304+0.0000000000j, 0.1414030028-0.0000000000j, -0.2121067553+0.0054505651j, 0.3135995791+0.0000000000j)$

0.7905694150 + 0.6123724357j: Bezárt szög: 37.7612439070 360 / bezárt szög: 9.5335842454

- $(-0.1352070309+0.2053786133j, 0.1143682691+0.0636092612j, -0.1022404884-0.0497593465j, -0.0301307870+0.1823303188j, 0.0962308942+0.0659733790j, 0.0985473222-0.0584061323j, 0.0281362179-0.1902076404j, -0.1378675161-0.2094050218j, -0.1035465527+0.0502132667j, -0.0005321000+0.1566179764j, -0.1209085498-0.1933018561j, 0.0862744931-0.0368618554j, 0.2257926331+0.0089140110j, -0.0753646439+0.0569127498j, 0.0896942489-0.0508291130j, 0.0020068858-0.1558773856j, -0.1655998301+0.0566059537j, -0.1664585335-0.0455156187j, -0.0076206640+0.0010205283j, -0.0624255624-0.1357428593j, -0.0255801025+0.0935886943j, -0.1712619576-0.0099338022j, -0.1360817327+0.0000006448j, 0.0329895828+0.1583530491j, 0.1200551367+0.1244563370j, -0.0620572448-0.2040470836j, 0.0602469405+0.1216166432j, 0.1039939600-0.1263044481j, 0.0000606715-0.0927497250j, 0.1175025140+0.1460140199j, -0.0110464766-0.1593095649j, 0.1669096689-0.0000000000j, 0.0494805304+0.0000000000j, 0.1414030028+0.0000000000j, -0.2121067553+0.0054505651j, 0.3135995791+0.0000000000j)$

0.7905694150 - 0.6123724357j: Bezárt szög: -37.7612439070 360 / bezárt szög: -9.5335842454

- $(-0.1299356188-0.0000000000j, -0.1053457855-0.1824642528j, -0.1078697594+0.2111599529j, -0.0688268781-0.0093586573j, -0.0681378143-0.1669025584j, -0.0957036884+0.1906195043j, -0.0623883648-0.0005913876j, -0.1208770700-0.0058970406j, -0.1076730212-0.2105770538j, -0.0729095335-0.0001290205j, 0.1041026367-0.0051946606j, -0.1052370638-0.1966498066j, -0.0495654076-0.0976820125j, -0.1174635166-0.1894045288j, -0.0506300306+0.1698746301j, -0.0764159004+0.0009554626j, -0.0870874664+0.1514265761j, 0.0669704539-0.0399114525j, 0.0076206640-0.0010205283j, -0.1149513115-0.1991015119j, 0.0255801025-0.0935886943j, 0.1712619576+0.0099338022j, -0.2721655270-0.0000000000j, -0.0920856970+0.1578640793j, 0.0159983170-$

0.0781011550j, -0.1198494608 - 0.2075853554j, 0.1359384393 + 0.2354522836j, 0.0126160259 + 0.0157449167j,
-0.0019885278 - 0.0119870881j, 0.0058231427 - 0.0057458919j, -0.0028585108 - 0.0055333611j, 0.1973230369 -
0.0000000000j, 0.1239914717 - 0.0000000000j, 0.1290282583 - 0.0000000000j, 0.2121067553 - 0.0054505651j,
-0.2568974095 - 0.0000000000j)

0.7905694150 + 0.6123724357j: Bezárt szög: 37.7612439070 360 / bezárt szög: 9.5335842454

- (-0.1299356188 + 0.0000000000j, 0.0914946152 + 0.1584733222j, 0.0645416202 - 0.1301781522j, 0.1562638724 +
0.0217039465j, -0.0681391568 - 0.1669045214j, 0.0786074500 - 0.1727082309j, 0.1498453960 + 0.0172962110j,
-0.1352713378 + 0.0036123744j, 0.0642624232 + 0.1309825848j, 0.2027196321 - 0.0002106203j, 0.1636545697 -
0.0035320399j, -0.0744090587 - 0.1341743506j, -0.0801424996 - 0.1468560327j, -0.0785681138 - 0.1315015846j,
-0.0843399210 + 0.1653037561j, 0.1991899199 + 0.0015597503j, -0.1068328279 + 0.0040146994j, 0.1174527012 +
0.1213995093j, 0.0161625912 - 0.0022444511j, -0.1877564993 - 0.0724329565j, -0.0760670555 - 0.1611960377j,
0.2414820470 + 0.0414138150j, 0.1360839873 - 0.0000002470j, 0.0585370457 + 0.1072573715j, -0.1691399183 -
0.0440462580j, 0.0657658771 - 0.1515823738j, -0.0764843940 - 0.1202590204j, 0.1868923596 - 0.0710981662j,
-0.0525990481 + 0.1993903542j, 0.1876428079 + 0.0329788372j, -0.0034422335 + 0.1619960532j, -0.0152066840 -
0.0000000000j, -0.0372554707 - 0.0000000000j, 0.0061873722 + 0.0000000000j, 0.0634992369 - 0.0109011302j,
0.2852484943 - 0.0000000000j)

0.7905694150 - 0.6123724357j: Bezárt szög: -37.7612439070 360 / bezárt szög: -9.5335842454

- (-0.0324839047 - 0.1258096219j, -0.1143682691 - 0.1428459223j, -0.0587575800 - 0.1337902020j, 0.1599802634 +
0.0616916880j, -0.1786360291 + 0.0242488803j, -0.1198138066 + 0.1358411163j, 0.1740558296 + 0.0014634969j,
-0.0387072346 + 0.1237307124j, -0.0582643051 + 0.1339787294j, -0.1272793164 + 0.1549882041j, 0.0627178581 +
0.1594609758j, 0.0341443902 + 0.1410012897j, -0.1673481411 + 0.0283365998j, 0.1052483969 + 0.0995359715j,
-0.1652124455 + 0.0055746416j, -0.1287868393 - 0.1583760812j, -0.1213732496 + 0.0205833903j, -0.1215678440 +
0.1993533499j, 0.2798338151 + 0.0024478456j, 0.0811330772 - 0.0138093067j, 0.0510220504 + 0.0447112141j,
-0.0905834371 - 0.0353937071j, -0.0680405559 - 0.1178501939j, 0.0621141796 + 0.1085628547j, -0.1233915240 +
0.1913945953j, 0.0258318747 + 0.0518186631j, 0.1294873149 + 0.0061079180j, 0.0518168725 - 0.2004559548j,
0.1350022013 + 0.1409758605j, 0.0731485529 + 0.1811629006j, -0.1386510382 + 0.0727747414j, 0.1590649538 -
0.0000000000j, -0.1494576671 + 0.0000000000j, -0.1357751577 + 0.0000000000j, 0.1648165841 + 0.0071162510j,
-0.0172396494 + 0.0000000000j)

0.5000000000 + 0.8660254038j: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- (0.0649678094 - 0.0000000000j, 0.0526728927 - 0.0912321264j, -0.1550911671 - 0.2111599529j, -0.1933313088 +
0.0406206619j, 0.0340677050 + 0.0834521013j, 0.0592773712 + 0.1059476546j, -0.1643314345 - 0.0975033770j,
0.0546152314 - 0.0058661325j, -0.1553251972 + 0.2105770538j, 0.0364047973 - 0.1687231933j, 0.0345311672 +
0.0459549723j, 0.2386079705 + 0.0199815148j, -0.0603974790 - 0.0022103359j, -0.1017993097 + 0.2165357309j,
0.0281140926 - 0.1055803227j, 0.0378379011 + 0.1682956762j, 0.1963021130 + 0.0040146994j, 0.1189707202 +
0.1299785557j, 0.0006748844 + 0.0000369003j, -0.1986265298 - 0.0630755170j, 0.2095421542 - 0.0676073435j,
0.2088067106 - 0.0314800128j, -0.0680413387 - 0.1178523453j, -0.0935906030 - 0.1562354453j, -0.1671335314 -
0.0251956285j, 0.0835154577 - 0.1362843790j, 0.1364303058 - 0.0086329407j, 0.0773293914 + 0.1501602947j,
0.0689178955 + 0.0421559772j, 0.0755882533 - 0.1725971285j, -0.1290801161 + 0.0839790882j, 0.2718430578 +
0.0000000000j, 0.3065610865 + 0.0000000000j, -0.0582662967 - 0.0000000000j, -0.0698069133 + 0.0022317617j,
0.0498859013 + 0.0000000000j)

0.5000000000 + 0.8660254038j: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- (-0.1352070309 - 0.2053786133j, -0.1122713706 - 0.0672411958j, 0.1002573968 + 0.0486920053j, 0.1484407567 +
0.1106470531j, -0.0225640672 + 0.1144720280j, -0.1237355870 + 0.0630351918j, 0.1743489369 - 0.0512107914j,
-0.1322712497 + 0.2094050218j, 0.1013586732 - 0.0476469271j, -0.0007319777 - 0.1564547769j, -0.1047395754 -
0.2051894462j, 0.0063621149 - 0.0872087337j, 0.2283100945 - 0.0132743820j, -0.0790051327 - 0.0374310631j,
-0.0251610936 - 0.1315007897j, 0.0005266894 + 0.1546688103j, 0.0337777211 - 0.1717166366j, 0.1226469488 -
0.1213995093j, -0.2883757423 - 0.0012239228j, 0.1487695458 + 0.0138093067j, 0.0506251076 + 0.0228961294j,
0.0203633477 + 0.0039136943j, 0.0680424556 - 0.1178517005j, 0.1206429719 - 0.1077463414j, 0.0477547812 -
0.1661989667j, -0.1456813356 + 0.1557666923j, 0.0607388070 - 0.1224685810j, 0.1687073255 + 0.0081109299j,
0.0709670949 - 0.0386066597j, 0.1872676246 - 0.0208372167j, -0.1372680818 - 0.0697971155j, 0.3411813067 -
0.0000000000j, -0.0627216660 + 0.0000000000j, -0.0005595271 + 0.0000000000j, -0.0162090657 - 0.0016656859j,
0.0111114354 + 0.0000000000j)

0.5000000000 - 0.8660254038j: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- $(-0.0324839047-0.1258096219j, 0.1808923320-0.0276228653j, -0.0587575800-0.1337902020j, -0.1334167007+0.1077011282j, -0.1786360291+0.0242488803j, 0.1775487609+0.0358412421j, -0.0857604893-0.1514685185j, -0.0387072346+0.1237307124j, -0.0582643051+0.1339787294j, -0.1272793164+0.1549882041j, -0.1694561850-0.0254152296j, -0.1391828939-0.0409307356j, 0.1082142858+0.1307594416j, 0.0335764815-0.1409157712j, -0.1652124455+0.0055746416j, -0.1287868393-0.1583760812j, 0.0785123637+0.0948206224j, 0.2334289874+0.0056041663j, -0.0078670428+0.0012608231j, -0.0525257491-0.0633586526j, 0.3111893123+0.0000000000j, 0.1385866212-0.0629600255j, 0.1360831185+0.0000000318j, -0.1250752799-0.0004889698j, -0.1040568197-0.2025574920j, -0.0577922160-0.0035382718j, -0.0705251361-0.1177339977j, 0.0776896065-0.0238558466j, -0.2678945316+0.0119870881j, 0.0467936614+0.0265831087j, 0.2676516967+0.0000000000j, -0.0897267049-0.0000000000j, -0.2198250854-0.0000000000j, 0.1934819273+0.0000000000j, 0.0788006051+0.0076823268j, -0.0215348165+0.0000000000j)$

0.5000000000 - 0.8660254038j: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- $(-0.1299356188-0.0000000000j, 0.0914946152-0.1584733222j, 0.0645416202-0.1301781522j, -0.0593357672-0.1461804564j, -0.0681391568-0.1669045214j, 0.1102659904+0.1544301641j, -0.0899016561+0.1211218140j, -0.1352713378+0.0036123744j, 0.0642624232+0.1309825848j, 0.2027196321-0.0002106203j, -0.0848861211-0.1399629948j, -0.0789938669+0.1315273104j, 0.1672523048+0.0040225758j, 0.1531677698-0.0022911902j, -0.0843399210+0.1653037561j, 0.1991899199+0.0015597503j, 0.0499395823-0.0945272926j, -0.1638614096+0.0410172683j, 0.0092168116-0.0011870225j, 0.1566070300-0.1263854199j, 0.1078949961-0.1352146870j, 0.2790268000+0.0000000000j, -0.0680428105-0.1178505916j, 0.0636190856-0.1043232544j, 0.0464247807+0.1685025951j, -0.1641571250+0.0188362667j, 0.1457247684+0.0047502951j, -0.2390694471-0.0030533406j, 0.1875405778+0.0343352313j, -0.2319967690+0.0021700436j, -0.1241623282+0.0700882531j, -0.0897267049-0.0000000000j, -0.2198250854-0.0000000000j, 0.1934819273+0.0000000000j, -0.2184144317-0.0032188034j, -0.0215348165-0.0000000000j)$

0.5000000000 + 0.8660254038j: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- $(-0.0324839047+0.1258096219j, 0.1808923320+0.0276228653j, 0.1411258637-0.0304812876j, -0.0726583933+0.1550789002j, 0.1445681833-0.1076986076j, 0.1697709521-0.0223696821j, -0.0164265385-0.1796182117j, -0.0331109682-0.1191613800j, 0.1403546982+0.0307593473j, -0.1270794387-0.1549882041j, 0.0999513786+0.1320865231j, -0.1498758877+0.0250637249j, -0.1615509924-0.0227582909j, 0.0968651678-0.1177166624j, 0.1665474385+0.0829762667j, -0.1273066430+0.1583760812j, 0.0639719419+0.1113893132j, -0.0055915579+0.0835580069j, -0.0009212632+0.0002033945j, 0.2163638275-0.0047350028j, 0.1272272606-0.0259813508j, 0.1010418683-0.0215462106j, -0.0680415317-0.1178514535j, -0.1214981460+0.0008165133j, -0.0583084253+0.0328833613j, -0.0977262183+0.1998627651j, 0.1372232010-0.0022095606j, -0.0181850341+0.0792090961j, 0.1235661430-0.2379970139j, -0.0003751833-0.0538160539j, -0.1338258483-0.2317931687j, -0.0152066840+0.0000000000j, -0.0372554707-0.0000000000j, 0.0061873722-0.0000000000j, 0.3607142738-0.0000000000j, 0.2852484943-0.0000000000j)$

0.5000000000 - 0.8660254038j: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- $(-0.0324839047+0.1258096219j, -0.0665240630-0.1704687875j, 0.1411258637-0.0304812876j, 0.1706314638-0.0146154357j, 0.1445681833-0.1076986076j, -0.0655127631+0.1582107984j, 0.1637672036+0.0755833062j, -0.0331109682-0.1191613800j, 0.1403546982+0.0307593473j, -0.1270794387-0.1549882041j, 0.0644145952-0.1526036945j, 0.0966437663+0.1172644637j, 0.1004847543-0.1285281180j, 0.0535130362+0.1427460273j, 0.1665474385+0.0829762667j, -0.1273066430+0.1583760812j, -0.1284519459-0.0002933298j, -0.0695675777-0.0466214346j, -0.0078670428+0.0012608231j, -0.1040812810+0.1897440725j, 0.3111893123+0.0000000000j, 0.1385866212-0.0629600255j, -0.0680409838+0.1178499468j, 0.0614561943+0.1048122243j, 0.0576320389+0.0340548969j, 0.2219493411-0.0152979949j, -0.0700332696+0.1090853452j, 0.1476915130+0.1451027053j, -0.1895897772+0.0464274056j, 0.1203173977-0.1539299554j, 0.1323502939+0.0836879506j, -0.0897267049+0.0000000000j, -0.2198250854-0.0000000000j, 0.1934819273-0.0000000000j, 0.0788006051+0.0076823268j, -0.0215348165-0.0000000000j)$

-0.5000000000 - 0.8660254038j: Bezárt szög: -120.0000000000 360 / bezárt szög: -3.0000000000

- $(0.0649678094+0.1591379828j, -0.1143682691-0.0396183306j, 0.0173202125+0.0916220343j, -0.1051654927+0.1821519765j, -0.1703446761+0.1669045214j, -0.1233792168+0.0581784411j, -0.0456320069-0.1977990957j, 0.0690347355-0.1586644116j, 0.0166102472-0.0920747460j, -0.1015678027-0.0793868161j, -0.0860691275+0.0776160960j, -0.1225699545+0.1480772037j, -0.0194873149+0.1133924786j, 0.1892389237-0.0324182938j, -0.1630840442-0.1653037561j, -0.1011352070+0.0744035502j, 0.0428608859-0.1154040126j, -0.1118611433-0.2049575162j, 0.0161625912-0.0022444511j, -0.0286073282+0.0771679593j, -0.0760670555-0.1611960377j, 0.2414820470+0.0414138150j, -0.0680412318-0.1178508069j, 0.0629611002-0.1080738848j, 0.2274483436+$

0.0111628967j, 0.0319603413 - 0.0482803913j, 0.1346536776 + 0.0022095606j, 0.0381285448 - 0.0822624367j, -0.1349415297 + 0.2337255855j, 0.0082628431 + 0.0559860974j, 0.1371886242 + 0.2265509451j, -0.0152066840 - 0.0000000000j, -0.0372554707 + 0.0000000000j, 0.0061873722 + 0.0000000000j, 0.0634992369 - 0.0109011302j, 0.2852484943 + 0.0000000000j)

-0.5000000000 - 0.8660254038j: Bezárt szög: -120.0000000000 360 / bezárt szög: -3.0000000000

- (0.0649678094+0.0000000000j, -0.1053457855+0.0000000000j, -0.1550911671-0.2111599529j, 0.1318441795+0.1471194938j, 0.0340677050 + 0.0834521013j, -0.1213920459 - 0.0016381180j, 0.1666061187 - 0.0935635084j, 0.0546152314 - 0.0058661325j, -0.1553251972 + 0.2105770538j, 0.0364047973 - 0.1687231933j, 0.0225325898 - 0.0528823542j, -0.1019994858 - 0.2166313215j, 0.0321129466 - 0.0512005832j, -0.1366257889 - 0.1964286537j, 0.0281140926 - 0.1055803227j, 0.0378379011 + 0.1682956762j, -0.0875955285 - 0.1511332463j, 0.0010791048 + 0.0779538406j, 0.2883757423 + 0.0012239228j, 0.2299026230 + 0.0000000000j, -0.0506251076 - 0.0228961294j, -0.0203633477 - 0.0039136943j, -0.0680424556 + 0.1178517005j, 0.1827571515 + 0.0008165133j, -0.0756367428 + 0.0251956285j, -0.1198494608 + 0.2075853554j, -0.0607388070 + 0.1224685810j, -0.1687073255 - 0.0081109299j, -0.0709670949 + 0.0386066597j, -0.1872676246 + 0.0208372167j, 0.1372680818 + 0.0697971155j, 0.0230513990 - 0.0000000000j, 0.2361936681 + 0.0000000000j, 0.2709907883 - 0.0000000000j, 0.0162090657 + 0.0016656859j, 0.0455907342 + 0.0000000000j)

-0.5000000000 + 0.8660254038j: Bezárt szög: 120.0000000000 360 / bezárt szög: 3.0000000000

- (0.2704140617+0.0000000000j, -0.1122713706+0.1944597181j, 0.0019830916+0.0010673413j, -0.0029245443 - 0.0081588073j, -0.0736668269 - 0.1804454071j, -0.1177654041 - 0.1901881164j, -0.0191322249 + 0.0059147130j, 0.2701387659 - 0.0000000000j, 0.0021878795 - 0.0025663396j, 0.0012640776 - 0.0001631995j, -0.1231190176 - 0.2132483938j, 0.0027166284 + 0.0071708551j, 0.2462670758 + 0.0000000000j, 0.0045192504 + 0.0065880875j, -0.0645331552 + 0.1823299027j, -0.0025335752 + 0.0012085753j, 0.1318221090 + 0.1151106828j, 0.0438115847 + 0.1669151280j, -0.0006748844 - 0.0000369003j, -0.0863439833 + 0.1219335526j, -0.2095421542 + 0.0676073435j, -0.2088067106 + 0.0314800128j, -0.1360827635 - 0.2357022604j, -0.1536325547 - 0.0506067078j, -0.1678099179 + 0.0417426297j, 0.2077385804 + 0.0482803913j, 0.2718768786 + 0.0000000000j, 0.0199435107 - 0.0030533406j, -0.0113753867 - 0.0042714284j, 0.0078876598 + 0.0021700436j, 0.0033627759 - 0.0052422236j, 0.0923896480 - 0.0000000000j, -0.1330890843 - 0.0000000000j, 0.3286975578 - 0.0000000000j, 0.0698069133 - 0.0022317617j, 0.0068162683 - 0.0000000000j)

-0.5000000000 + 0.8660254038j: Bezárt szög: 120.0000000000 360 / bezárt szög: 3.0000000000

- (0.0649678094 - 0.0000000000j, 0.0526728927 - 0.0912321264j, 0.2629609265 + 0.0000000000j, 0.1670227047 - 0.1049058155j, 0.0340701092 + 0.0834504571j, 0.0579521178 + 0.0722439230j, 0.1326250954 + 0.1512375920j, 0.0662618387 + 0.0117631731j, 0.2629982184 - 0.0000000000j, 0.0365047362 + 0.1688522138j, 0.0220188592 + 0.0416032254j, -0.1209227743 - 0.2094443888j, -0.0489803291 - 0.0037057682j, -0.1209615821 - 0.2095116059j, 0.0225159381 - 0.0642943074j, 0.0385779993 - 0.1692511388j, 0.1746829949 - 0.0002933298j, -0.0680495587 - 0.0380423882j, 0.0006748844 + 0.0000369003j, -0.1149513115 + 0.1991015119j, 0.2095421542 - 0.0676073435j, 0.2088067106 - 0.0314800128j, -0.0680414247 - 0.1178499151j, -0.0906714545 - 0.1586805926j, 0.0596384258 + 0.0529055265j, 0.2396989217 + 0.0000000000j, 0.1354465728 + 0.0086329407j, -0.0573858806 - 0.1532136352j, -0.0802932823 - 0.0464274056j, -0.0677005935 + 0.1747671721j, 0.1324428920 - 0.0892213118j, 0.2718430578 - 0.0000000000j, 0.3065610865 + 0.0000000000j, -0.0582662967 + 0.0000000000j, -0.0698069133 + 0.0022317617j, 0.0498859013 + 0.0000000000j)

-0.5000000000 + 0.8660254038j: Bezárt szög: 120.0000000000 360 / bezárt szög: 3.0000000000

- (0.0649678094-0.1591379828j, 0.0228736538-0.1188549917j, -0.0818618326+0.0385561179j, -0.0510983797-0.2038559230j, 0.2384838329 + 0.0000000000j, 0.0447717668 + 0.1145297898j, -0.1042133890 + 0.1805028847j, 0.0662366023+0.1550520372j, -0.0808726704-0.0389078388j, -0.1011518294+0.0795974364j, -0.0775854421-0.0740840561j, 0.1969790132 - 0.0139028531j, 0.0996298145 + 0.0334635541j, -0.1106708098 + 0.1639198784j, 0.2474239653+0.0000000000j, -0.0980547129-0.0759633005j, 0.0639719419+0.1113893132j, -0.0055915579+0.0835580069j, 0.0161625912 - 0.0022444511j, 0.2163638275 - 0.0047350028j, -0.0760670555 - 0.1611960377j, 0.2414820470+0.0414138150j, -0.0680402009+0.1178520983j, -0.1214981460+0.0008165133j, -0.0583084253+0.0328833613j, -0.0977262183+0.1998627651j, -0.0769762605+0.1238262039j, 0.1221789941-0.2055135442j, -0.1235054715+0.1452472890j, 0.1178776973+0.1998300738j, 0.1227793718+0.0724836038j, -0.0152066840+0.0000000000j, -0.0372554707 - 0.0000000000j, 0.0061873722 - 0.0000000000j, 0.0634992369 - 0.0109011302j, 0.2852484943 - 0.0000000000j)

-0.5000000000 - 0.8660254038j: Bezárt szög: -120.0000000000 360 / bezárt szög: -3.0000000000

- $(-0.1352070309+0.2053786133j, -0.0020968985-0.1308504570j, -0.1022404884-0.0497593465j, 0.1729680814-0.0650711324j, 0.0962308942+0.0659733790j, 0.0013075332+0.1145475506j, 0.1506565396+0.1194704997j, -0.1378675161-0.2094050218j, -0.1035465527+0.0502132667j, -0.0005321000+0.1566179764j, -0.1069500431+0.2013608038j, -0.0750605497-0.0562849751j, -0.1206160765+0.1910851508j, -0.0116055652-0.0937240710j, 0.0896942489-0.0508291130j, 0.0020068858-0.1558773856j, 0.3031349408+0.0000000000j, 0.0015180190+0.0085790464j, -0.0006748844-0.0000369003j, -0.0108700305+0.0093574395j, -0.2095421542+0.0676073435j, -0.2088067106+0.0314800128j, 0.0680414247+0.1178499151j, -0.1521276488-0.2634928169j, 0.0020063869+0.0188506295j, 0.0177495806+0.0152979949j, -0.1354465728-0.0086329407j, 0.0573858806+0.1532136352j, 0.0802932823+0.0464274056j, 0.0677005935-0.1747671721j, -0.1324428920+0.0892213118j, 0.0923896480+0.0000000000j, -0.1330890843-0.0000000000j, 0.3286975578+0.0000000000j, 0.0698069133-0.0022317617j, 0.0068162683+0.0000000000j)$

-0.7905694150 + 0.6123724357j: Bezárt szög: 142.2387560930 360 / bezárt szög: 2.5309557668

- $(0.2704140617+0.0000000000j, 0.2245427412-0.0000000000j, 0.0019830916+0.0010673413j, -0.0056034622+0.0066121333j, -0.0736668269-0.1804454071j, 0.2235904423-0.0068937734j, 0.0044438207-0.0195263493j, 0.2701387659+0.0000000000j, 0.0021878795-0.0025663396j, 0.0012640776-0.0001631995j, -0.1231190176+0.2132483938j, 0.0048518285-0.0059380968j, -0.1231335379+0.2132735437j, -0.0079650763+0.0006197419j, -0.0645331552+0.1823299027j, -0.0025335752+0.0012085753j, -0.1515674704-0.2625225595j, 0.0066706626-0.0056041663j, -0.2883757423-0.0012239228j, 0.0135387955+0.0047350028j, 0.0506251076+0.0228961294j, 0.0203633477+0.0039136943j, -0.1360827635+0.2357022604j, 0.3042552975+0.0000000000j, -0.0173283175-0.0076877328j, -0.0221232425+0.0077225903j, -0.1359384393+0.2354522836j, -0.0073274849+0.0187982572j, 0.0093868589-0.0077156597j, -0.0020645170-0.0079159355j, -0.0062212867-0.0002911376j, 0.3411813067+0.0000000000j, -0.0627216660+0.0000000000j, -0.0005595271-0.0000000000j, -0.0162090657-0.0016656859j, 0.0111114354-0.0000000000j)$

-0.7905694150 - 0.6123724357j: Bezárt szög: -142.2387560930 360 / bezárt szög: -2.5309557668

- $(0.0649678094+0.0000000000j, 0.0526728927+0.0912321264j, -0.1550911671-0.2111599529j, 0.0614871292-0.1877401557j, 0.0340677050+0.0834521013j, 0.0621146747-0.1043095366j, -0.0022746842+0.1910668854j, 0.0546152314-0.0058661325j, -0.1553251972+0.2105770538j, 0.0364047973-0.1687231933j, -0.0570637571+0.0069273819j, -0.1366084847+0.1966498066j, 0.0282845324+0.0534109191j, 0.2384250986-0.0201070771j, 0.0281140926-0.1055803227j, 0.0378379011+0.1682956762j, -0.1087065845+0.1471185469j, -0.1200498250-0.2079323963j, 0.0076206640-0.0010205283j, -0.0312760932+0.0630755170j, 0.0255801025-0.0935886943j, 0.1712619576+0.0099338022j, 0.1360837943+0.0000006448j, -0.0891665485+0.1554189320j, 0.2427702742+0.0000000000j, 0.0363340031-0.0713009765j, -0.0756914988-0.1138356403j, 0.0913779341-0.1420493647j, 0.0020491994-0.0807626369j, 0.1116793713+0.1517599118j, -0.0081879657-0.1537762037j, 0.1973230369-0.0000000000j, 0.1239914717-0.0000000000j, 0.1290282583+0.0000000000j, 0.2121067553-0.0054505651j, -0.2568974095+0.0000000000j)$

-0.7905694150 - 0.6123724357j: Bezárt szög: -142.2387560930 360 / bezárt szög: -2.5309557668

- $(-0.1352070309-0.2053786133j, 0.1143682691-0.0636092612j, 0.1002573968+0.0486920053j, -0.1700435372+0.0732299397j, -0.0225640672+0.1144720280j, 0.1164578709+0.0756405658j, -0.1315243147-0.1253852127j, -0.1322712497+0.2094050218j, 0.1013586732-0.0476469271j, -0.0007319777-0.1564547769j, 0.2300690607+0.0118875901j, 0.0723439214+0.0491141199j, -0.1256509992-0.1910851508j, 0.0070863148+0.0871359835j, -0.0251610936-0.1315007897j, 0.0005266894+0.1546688103j, 0.1177897493-0.0908059230j, -0.1144582671+0.1243743895j, -0.0006748844-0.0000369003j, -0.1461007808+0.0002831356j, -0.2095421542+0.0676073435j, -0.2088067106+0.0314800128j, 0.0680413387+0.1178523453j, 0.0314846769-0.1557464755j, -0.0630767118+0.1773618635j, 0.1413076737-0.1327461071j, -0.1364303058+0.0086329407j, -0.0773293914-0.1501602947j, -0.0689178955-0.0421559772j, -0.0755882533+0.1725971285j, 0.1290801161-0.0839790882j, 0.0923896480+0.0000000000j, -0.1330890843-0.0000000000j, 0.3286975578-0.0000000000j, 0.0698069133-0.0022317617j, 0.0068162683-0.0000000000j)$

-0.7905694150 + 0.6123724357j: Bezárt szög: 142.2387560930 360 / bezárt szög: 2.5309557668

- $(0.0649678094+0.0000000000j, -0.1143682691+0.1980916528j, -0.0823682838+0.1642714896j, -0.0372147631-0.0930856925j, 0.0340678458+0.0834497273j, -0.1120359978-0.1940520405j, -0.0780067143+0.0758852124j, 0.0718182029-0.0045693324j, -0.0820903931-0.1647380768j, 0.2543587550-0.0000000000j, 0.1050415899+0.1780189241j, 0.0425391276-0.0763337281j, -0.2086990401-0.0022313236j, -0.0870895176-0.0018302561j, -0.0013349930-0.0885509082j, 0.2560934823+0.0000000000j, 0.0499395823-0.0945272926j, -0.1638614096+0.0410172683j, -0.0078670428+0.0012608231j, 0.1566070300-0.1263854199j, 0.3111893123-0.0000000000j, 0.1385866212-0.0629600255j, -0.0680399529-0.1178516688j, 0.0636190856-0.1043232544j, 0.0464247807+$

0.1685025951j, -0.1641571250 + 0.0188362667j, 0.1261521101 - 0.0047502951j, 0.2590129579 + 0.0000000000j, -0.1989159645 - 0.0386066597j, 0.2398844287 + 0.0000000000j, 0.1275251041 - 0.0753304767j, -0.0897267049 + 0.0000000000j, -0.2198250854 + 0.0000000000j, 0.1934819273 - 0.0000000000j, 0.0788006051 + 0.0076823268j, -0.0215348165 + 0.0000000000j)

-0.9013878189 + 0.4330127019j: Bezárt szög: 154.3410937267 360 / bezárt szög: 2.3324961053

- (0.0649678094-0.1591379828j, -0.1143682691+0.0396183306j, -0.0818618326+0.0385561179j, -0.1509952182+0.1461804564j, 0.2384838329-0.0000000000j, -0.1215715908-0.0184914075j, -0.1042133890-0.1805028847j, 0.0662366023+0.1550520372j, -0.0808726704-0.0389078388j, -0.1011518294+0.0795974364j, -0.0253659535+0.1042329919j, -0.1105297306-0.1636374029j, -0.0787951952+0.0695501733j, -0.0866233739-0.1778036720j, 0.2474239653-0.0000000000j, -0.0980547129-0.0759633005j, -0.1284519459-0.0002933298j, -0.0695675777-0.0466214346j, 0.0092168116 - 0.0011870225j, -0.1040812810 + 0.1897440725j, 0.1078949961 - 0.1352146870j, 0.2790268000 + 0.0000000000j, 0.1360824085 - 0.0000000318j, 0.0614561943 + 0.1048122243j, 0.0576320389 + 0.0340548969j, 0.2219493411 - 0.0152979949j, -0.0654133032 - 0.1177182859j, -0.0903056323 + 0.0081109299j, 0.2698830594 + 0.0000000000j, -0.0526168042 - 0.0208372167j, -0.2647931859 + 0.0055333611j, -0.0897267049 + 0.0000000000j, -0.2198250854 - 0.0000000000j, 0.1934819273 - 0.0000000000j, -0.2184144317 - 0.0032188034j, -0.0215348165 - 0.0000000000j)

-0.9013878189 + 0.4330127019j: Bezárt szög: 154.3410937267 360 / bezárt szög: 2.3324961053

- (0.0649678094+0.0000000000j, -0.1053457855-0.0000000000j, 0.2629609265-0.0000000000j, -0.1743624535-0.0921929975j, 0.0340701092+0.0834504571j, -0.0915411314+0.0140660447j, -0.1972881444+0.0392379058j, 0.0662618387 + 0.0117631731j, 0.2629982184 + 0.0000000000j, 0.0365047362 + 0.1688522138j, 0.0250200205 - 0.0398705041j, -0.1209227743 + 0.2094443888j, 0.0276994540 - 0.0405653252j, 0.2419231642 + 0.0000000000j, 0.0225159381 - 0.0642943074j, 0.0385779993 - 0.1692511388j, -0.0730551068 - 0.1677019372j, 0.2400996500 + 0.0000000000j, 0.2883757423 + 0.0012239228j, -0.0389869535 - 0.0586236497j, -0.0506251076 - 0.0228961294j, -0.0203633477-0.0039136943j, -0.0680403079+0.1178505599j, 0.1791800176-0.0004889698j, -0.1213851371-0.2102452248j, -0.0799154585 + 0.0041843185j, -0.0751996323 + 0.1129837025j, 0.1613798406 + 0.0269091872j, 0.0803539538 - 0.0463223194j, 0.1852031075 - 0.0287531522j, -0.1434893685 - 0.0700882531j, 0.0230513990 - 0.0000000000j, 0.2361936681 - 0.0000000000j, 0.2709907883 + 0.0000000000j, 0.0162090657 + 0.0016656859j, 0.0455907342 - 0.0000000000j)

-0.9013878189 - 0.4330127019j: Bezárt szög: -154.3410937267 360 / bezárt szög: -2.3324961053

- (0.0649678094+0.1591379828j, 0.0914946152 - 0.0792366611j, 0.0173202125 + 0.0916220343j, -0.1051654927 - 0.1821519765j, -0.1703446761 + 0.1669045214j, 0.1120736164 + 0.0777603155j, -0.1484830383 + 0.1384180251j, 0.0690347355 - 0.1586644116j, 0.0166102472 - 0.0920747460j, -0.1015678027 - 0.0793868161j, -0.0241829471 - 0.1133460989j, -0.0669536429 - 0.1801872962j, 0.1079444245 - 0.0398197296j, -0.1226945278 - 0.1476765684j, -0.1630840442 - 0.1653037561j, -0.1011352070 + 0.0744035502j, -0.1213732496 + 0.0205833903j, -0.1215678440 + 0.1993533499j, 0.2969176695 + 0.0000000000j, 0.0811330772 - 0.0138093067j, -0.1522722657 - 0.0905034729j, 0.0498567417 + 0.0275663185j, 0.1360830115 - 0.0000015067j, 0.0621141796 + 0.1085628547j, -0.1233915240 + 0.1913945953j, 0.0258318747 + 0.0518186631j, -0.0687485080 - 0.1285764990j, 0.1168904530 + 0.2085668848j, -0.0640351063 - 0.1795825203j, 0.1141190716 - 0.2020001173j, 0.0013829564 - 0.1425718569j, 0.1590649538 - 0.0000000000j, -0.1494576671 + 0.0000000000j, -0.1357751577 + 0.0000000000j, -0.1323984527 - 0.0037848792j, -0.0172396494 + 0.0000000000j)

-0.9013878189 - 0.4330127019j: Bezárt szög: -154.3410937267 360 / bezárt szög: -2.3324961053

- (-0.0324839047+0.1258096219j, -0.1143682691+0.1428459223j, 0.1411258637-0.0304812876j, -0.0979730705-0.1404634645j, 0.1445681833 - 0.1076986076j, -0.1042581890 - 0.1358411163j, -0.1473406651 + 0.1040349055j, -0.0331109682-0.1191613800j, 0.1403546982+0.0307593473j, -0.1270794387-0.1549882041j, -0.1643659738+0.0205171715j, 0.0532321214 - 0.1423281886j, 0.0610662381 + 0.1512864089j, -0.1503782040 - 0.0250293649j, 0.1665474385 + 0.0829762667j, -0.1273066430 + 0.1583760812j, 0.0644800040 - 0.1110959835j, 0.0751591356 - 0.0369365723j, 0.2798338151 + 0.0024478456j, -0.1122825465 - 0.1850090696j, 0.0510220504 + 0.0447112141j, -0.0905834371 - 0.0353937071j, 0.1360825155 + 0.0000015067j, 0.0600419517 - 0.1056287376j, 0.0006763864 - 0.0669382582j, -0.1242231227-0.1845647703j, -0.0671899313-0.1068757845j, -0.1295064789-0.2243118014j, 0.0660236342 + 0.1915696084j, -0.1199422144 + 0.2077460093j, 0.0014755544 + 0.1481052181j, 0.1590649538 + 0.0000000000j, -0.1494576671 - 0.0000000000j, -0.1357751577 - 0.0000000000j, 0.1648165841 + 0.0071162510j, -0.0172396494 - 0.0000000000j)

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

- (0.0649678094-0.0000000000j, 0.2287365381+0.0000000000j, -0.0823682838+0.1642714896j, -0.0620071929+0.0787717764j, 0.0340678458 + 0.0834497273j, 0.2240719956 + 0.0000000000j, -0.0267151645 - 0.1054984024j, 0.0718182029 - 0.0045693324j, -0.0820903931 - 0.1647380768j, 0.2543587550 + 0.0000000000j, 0.1016481157 - 0.1799781473j, -0.0873765115 + 0.0013268989j, 0.1062819029 - 0.1796230087j, 0.0451298071 - 0.0745066066j, -0.0013349930 - 0.0885509082j, 0.2560934823 - 0.0000000000j, 0.0568932456 + 0.0905125932j, 0.0464087085 - 0.1624167776j, 0.2798338151 + 0.0024478456j, 0.0311494693 + 0.1988183764j, 0.0510220504 + 0.0447112141j, -0.0905834371-0.0353937071j, -0.0680415867+0.1178514217j, -0.1221561314-0.0029341171j, 0.1227151375-0.1244563370j, 0.0983912480+0.1327461071j, -0.0666980648+0.1199435583j, -0.0595045724-0.0553532495j, 0.1443283886+0.2260099259j, -0.0464184781+0.0272329452j, -0.1338258483+0.2317931687j, 0.1590649538 - 0.0000000000j, -0.1494576671 - 0.0000000000j, -0.1357751577 + 0.0000000000j, 0.1648165841 + 0.0071162510j, -0.0172396494 + 0.0000000000j)

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

- (0.0649678094-0.0000000000j, -0.1143682691-0.1980916528j, -0.0823682838+0.1642714896j, 0.0992219559+0.0143139160j, 0.0340678458 + 0.0834497273j, -0.1120359978 + 0.1940520405j, 0.1047218788 + 0.0296131901j, 0.0718182029 - 0.0045693324j, -0.0820903931 - 0.1647380768j, 0.2543587550 - 0.0000000000j, -0.2066897056 + 0.0019592232j, 0.0448373839 + 0.0750068292j, 0.1024171371 + 0.1818543322j, 0.0419597106 + 0.0763368627j, -0.0013349930-0.0885509082j, 0.2560934823 - 0.0000000000j, -0.1068328279+0.0040146994j, 0.1174527012+0.1213995093j, -0.0009212632+0.0002033945j, -0.1877564993 - 0.0724329565j, 0.1272272606 - 0.0259813508j, 0.1010418683 - 0.0215462106j, 0.1360815397 + 0.0000002470j, 0.0585370457 + 0.1072573715j, -0.1691399183 - 0.0440462580j, 0.0657658771 - 0.1515823738j, -0.0594540453 - 0.1151932632j, -0.1995083854+0.0553532495j, 0.0545875759 - 0.1874032661j, -0.1934659506 - 0.0272329452j, 0.0063007443 - 0.1564626920j, -0.0152066840 + 0.0000000000j, -0.0372554707 + 0.0000000000j, 0.0061873722 + 0.0000000000j, 0.3607142738 - 0.0000000000j, 0.2852484943 + 0.0000000000j)

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

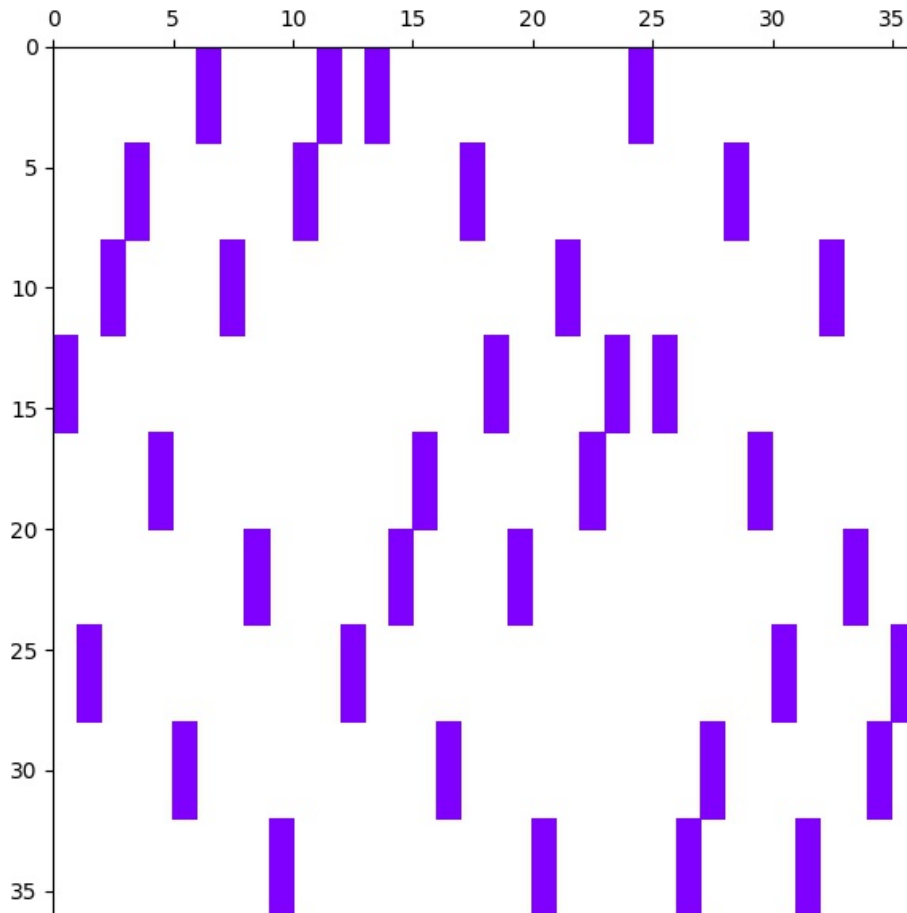
- (-0.1352070309+0.2053786133j, -0.1122713706+0.0672411958j, -0.1022404884-0.0497593465j, -0.1428372944-0.1172591863j, 0.0962308942+0.0659733790j, -0.0998548554 - 0.0561414184j, -0.1787927576+0.0707371407j, -0.1378675161-0.2094050218j, -0.1035465527+0.0502132667j, -0.0005321000+0.1566179764j, 0.2278585929-0.0080589476j, -0.0112139434+0.0931468304j, -0.1051765566 - 0.1999991618j, 0.0869702090+0.0368113212j, 0.0896942489 - 0.0508291130j, 0.0020068858 - 0.1558773856j, -0.1375351108 - 0.0566059537j, 0.1649405144 + 0.0369365723j, -0.2883757423 - 0.0012239228j, 0.0732955930 + 0.1263854199j, 0.0506251076 + 0.0228961294j, 0.0203633477 + 0.0039136943j, 0.0680403079 - 0.1178505599j, 0.1191380659 + 0.1051397677j, -0.1220615235 - 0.1433069665j, 0.0443076642 + 0.1887490888j, 0.0751996323 - 0.1129837025j, -0.1613798406 - 0.0269091872j, -0.0803539538+0.0463223194j, -0.1852031075+0.0287531522j, 0.1434893685+0.0700882531j, 0.3411813067+0.0000000000j, -0.0627216660-0.0000000000j, -0.0005595271+0.0000000000j, -0.0162090657-0.0016656859j, 0.0111114354 - 0.0000000000j)

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

- (0.0649678094 + 0.1591379828j, 0.0228736538 + 0.1188549917j, 0.0173202125 + 0.0916220343j, 0.2103309854 + 0.0000000000j, -0.1703446761 + 0.1669045214j, 0.0113056004 - 0.1359387566j, 0.1941150452 + 0.0593810706j, 0.0690347355 - 0.1586644116j, 0.0166102472 - 0.0920747460j, -0.1015678027 - 0.0793868161j, 0.1102520746 + 0.0357300029j, 0.1895235974 + 0.0321100925j, -0.0884571096 - 0.0735727490j, -0.0665443959 + 0.1800948622j, -0.1630840442 - 0.1653037561j, -0.1011352070 + 0.0744035502j, 0.0785123637 + 0.0948206224j, 0.2334289874 + 0.0056041663j, 0.0092168116 - 0.0011870225j, -0.0525257491 - 0.0633586526j, 0.1078949961 - 0.1352146870j, 0.2790268000+0.0000000000j, -0.0680417797+0.1178523136j, -0.1250752799-0.0004889698j, -0.1040568197-0.2025574920j, -0.0577922160-0.0035382718j, -0.0659051697+0.1263669384j, -0.1550189979-0.1263044481j, 0.1989766361-0.0541430653j, -0.1223819147+0.1460140199j, -0.1385715806-0.0839790882j, -0.0897267049-0.0000000000j, -0.2198250854+0.0000000000j, 0.1934819273 - 0.0000000000j, -0.2184144317 - 0.0032188034j, -0.0215348165 + 0.0000000000j)

4. Szimulációs mátrix

4.1. 1. szimuláció mátrixa



16. ábra. 1. szimuláció mátrixa

4.2. Érme sajátértékek, sajátvektorok

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

- $(0.8660254038 + 0.0000000000j, -0.5000000000 + 0.0000000000j, -0.2657261608 + 0.0000000000j, -0.0559190310 + 0.0000000000j)$

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

- $(0.2886751346 - 0.0000000000j, 0.5000000000 - 0.0000000000j, 0.2657261608 + 0.0000000000j, 0.7961530366 + 0.0000000000j)$

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

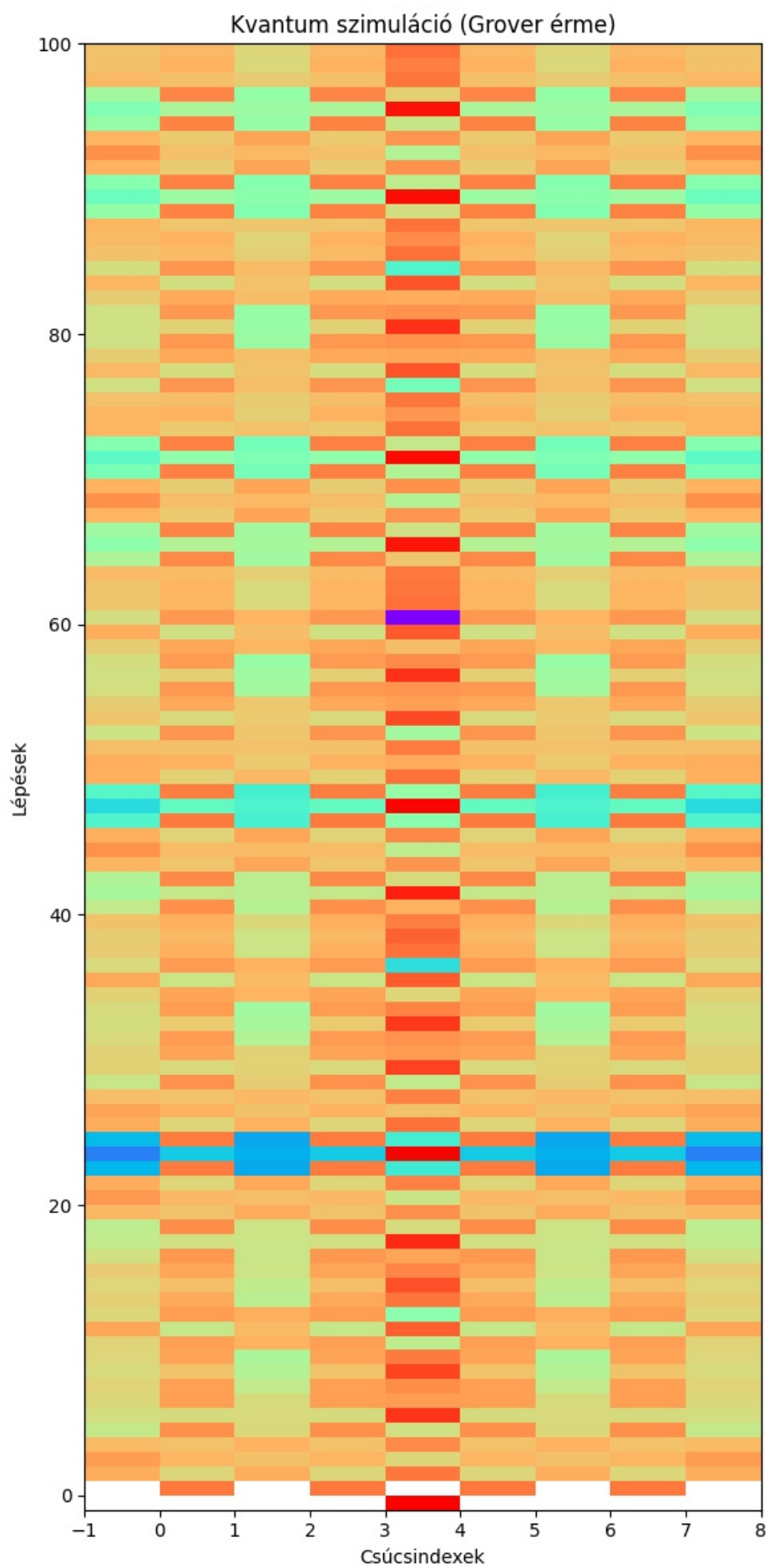
- $(0.2886751346 - 0.0000000000j, 0.5000000000 - 0.0000000000j, -0.3332556543 + 0.0000000000j, -0.4260360338 + 0.0000000000j)$

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

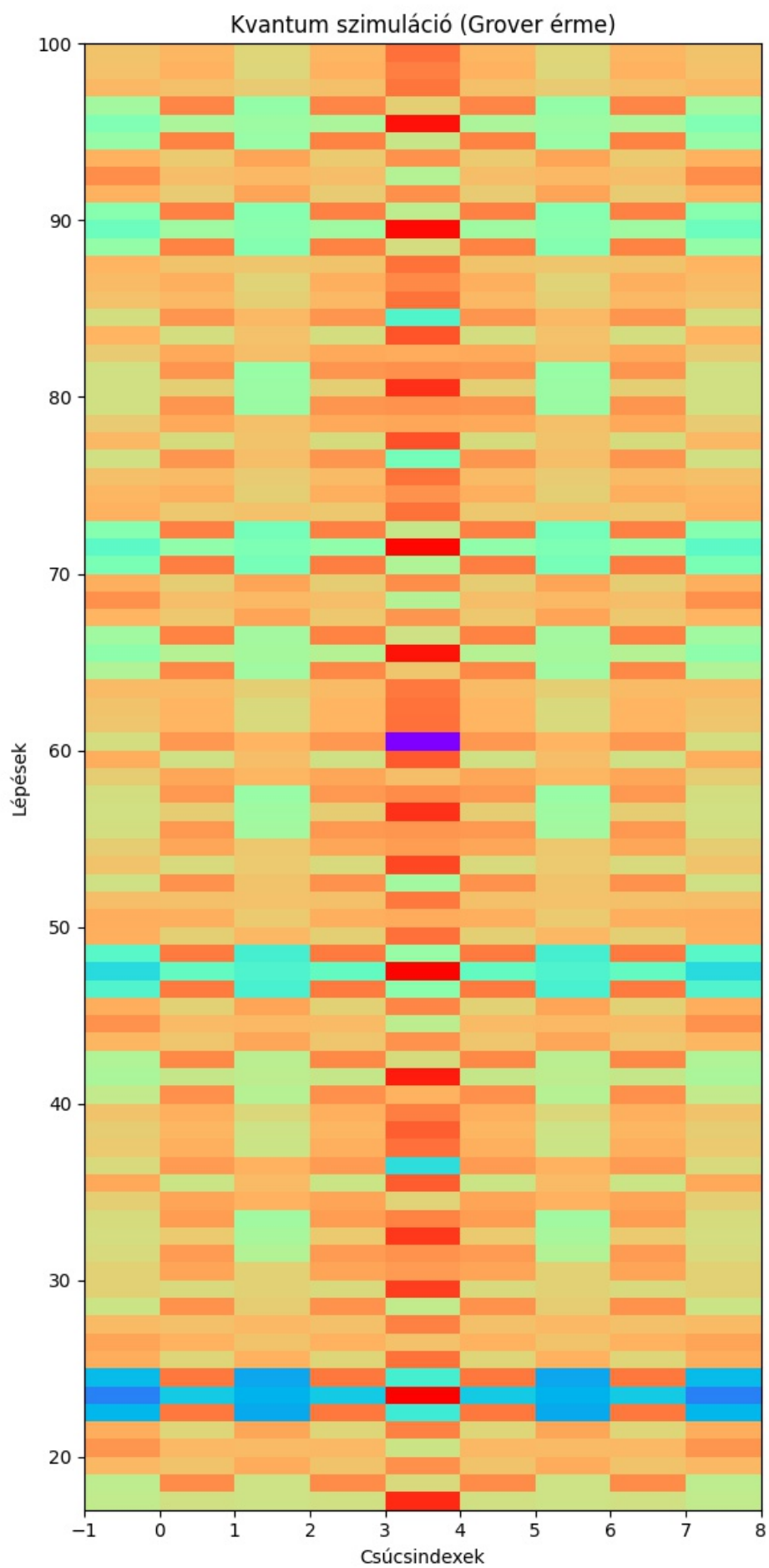
- $(0.2886751346 - 0.0000000000j, 0.5000000000 + 0.0000000000j, 0.8647079760 + 0.0000000000j, -0.4260360338 + 0.0000000000j)$

4.3. Kvantum szimuláció (Grover érme)

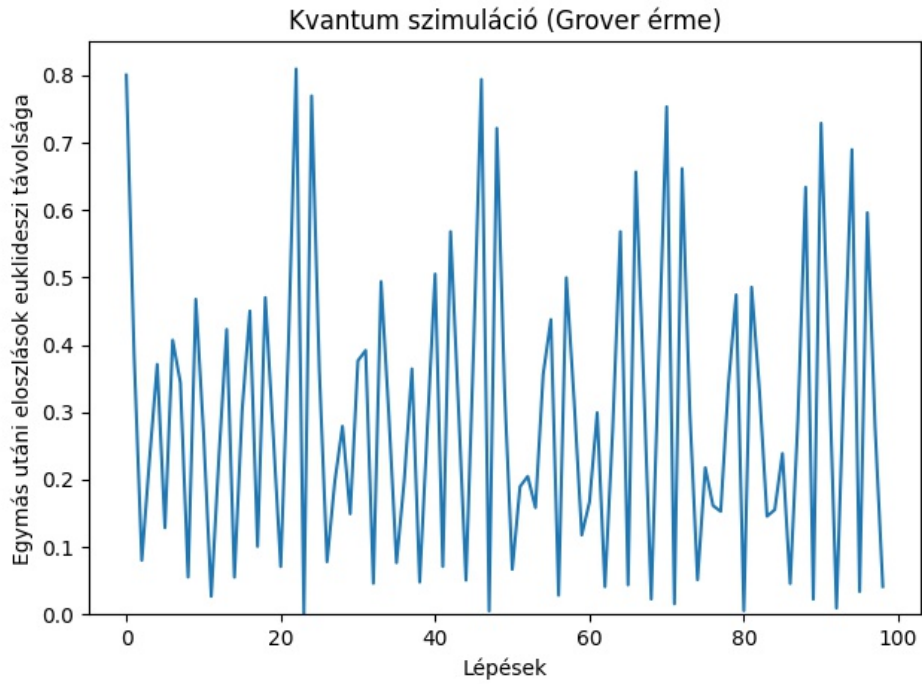
Kezdőcsúcs: 4 Bolyongók: 1 Lépésszám: 100



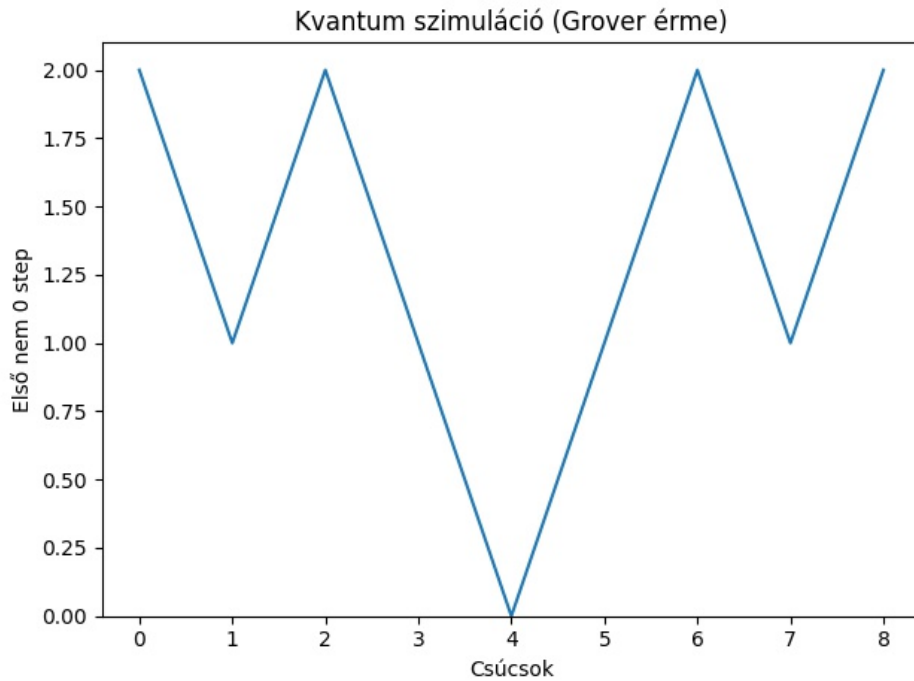
17. ábra. 2. szimuláció



18. ábra. 2. szimuláció levágva az elejét



19. ábra. 2. szimuláció mixing time



20. ábra. 2. szimuláció hitting time

4.4. Sajátértékek, sajátvektorok

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

- $(-0.1666666667 + 0.1290994449j, 0.0833333333 + 0.1443375673j, -0.0160297762 + 0.0144816563j, 0.1218320205 + 0.0526417416j, -0.1668327247 - 0.1288917808j, -0.0529682773 + 0.0337488381j, -0.1751024657 - 0.0275478306j, -0.0230223935 - 0.0048429231j, 0.0555481580 - 0.0829648659j, 0.1078682881 - 0.1395135694j, 0.0003922643 + 0.1551533850j, -0.2052135625 + 0.0140600484j, 0.1180609501 + 0.1716109186j, 0.0470563223 - 0.1078135882j, 0.0941250197 - 0.2244765165j, -0.0990564835 + 0.1141290167j, -0.0842582592 - 0.0000000000j, 0.2185504598 - 0.0000000000j, -0.1387309938 - 0.0000000000j, -0.0139142684 - 0.0000000000j, 0.0866807740 - 0.0000000000j, 0.1077382900 + 0.0000000000j, 0.1659822923 - 0.0000000000j, 0.0712636302 - 0.0000000000j, -0.0135309028 +$

0.0000000000j, -0.1044634009 - 0.0000000000j, 0.2698761328 - 0.0000000000j, -0.1741992884 - 0.0000000000j, 0.1009468607 - 0.0000000000j, 0.1572752638 + 0.0000000000j, -0.2407807315 + 0.0000000000j, -0.0475925898 + 0.0000000000j, -0.2545497921 + 0.0000000000j, 0.1637988310 - 0.0000000000j, 0.2709027479 - 0.0000000000j, 0.0546238962 - 0.0000000000j)

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

- (0.0333333333 - 0.1290994449j, 0.3333333333 + 0.0000000000j, 0.1689597509 - 0.0278895635j, -0.0034906299 - 0.0133967690j, 0.0344152286 + 0.1270813723j, -0.1458121076 + 0.0563566455j, -0.0011605053 - 0.0344314379j, 0.1762056601 + 0.0271904790j, 0.1035737223 - 0.0452837895j, 0.3280162644 + 0.0000000000j, -0.0365707828 - 0.0092502405j, 0.0126573566 - 0.0127173017j, -0.1905467006 - 0.0821785742j, 0.0081553795 + 0.0004729764j, -0.1873474410 + 0.1194412532j, 0.0143371976 + 0.0132470034j, 0.0521916101 - 0.0000000000j, 0.2709230234 - 0.0000000000j, -0.2426463048 + 0.0000000000j, 0.1446670971 + 0.0000000000j, -0.0119846025 + 0.0000000000j, -0.2098525956 - 0.0000000000j, -0.1790485743 + 0.0000000000j, -0.1843522870 + 0.0000000000j, -0.0477015686 - 0.0000000000j, 0.2479171208 + 0.0000000000j, 0.2371923426 + 0.0000000000j, -0.0681300078 + 0.0000000000j, 0.1807056891 - 0.0000000000j, 0.2042170649 - 0.0000000000j, -0.1321741078 + 0.0000000000j, -0.0215554721 - 0.0000000000j, -0.0970410607 - 0.0000000000j, 0.2228981705 + 0.0000000000j, -0.2331739784 + 0.0000000000j, 0.2086896971 - 0.0000000000j)
- (0.2000000000 - 0.0000000000j, -0.0000000000 - 0.0000000000j, 0.0119116491 - 0.1583871303j, 0.1434192718 + 0.2127472208j, 0.2018896330 + 0.0005504052j, -0.1214562679 + 0.0327314245j, 0.1693124274 - 0.0572080010j, 0.0127141019 + 0.1485814489j, 0.0205943142 - 0.0366183613j, 0.0402264291 - 0.0149670007j, 0.1081310502 + 0.2112589030j, 0.1504229023 + 0.0719014130j, -0.2033806497 - 0.0617034987j, -0.1741324971 - 0.0579884467j, -0.1581849810 + 0.1187106601j, -0.1534457350 - 0.1026566144j, 0.0159573353 - 0.0000000000j, -0.2015710456 + 0.0000000000j, 0.0099061946 - 0.0000000000j, 0.0261983677 + 0.0000000000j, 0.0974907964 + 0.0000000000j, -0.1541952866 - 0.0000000000j, -0.0068565635 - 0.0000000000j, -0.1644649509 - 0.0000000000j, -0.2944396618 + 0.0000000000j, 0.1593472569 + 0.0000000000j, 0.0417555728 + 0.0000000000j, -0.2949706808 - 0.0000000000j, -0.1290101923 + 0.0000000000j, 0.1889903621 + 0.0000000000j, -0.1014495032 - 0.0000000000j, -0.0737035309 + 0.0000000000j, -0.2153428440 - 0.0000000000j, -0.0175515846 + 0.0000000000j, 0.3473160487 + 0.0000000000j, 0.0674473045 + 0.0000000000j)
- (0.1333333333 + 0.0000000000j, 0.0833333333 - 0.1443375673j, 0.1767365548 - 0.0319916917j, -0.0270046010 - 0.0215065327j, 0.1344416637 - 0.0020309797j, -0.0563818238 - 0.2524528784j, 0.0550162808 - 0.2128689266j, 0.1790215254 + 0.0234039912j, -0.1874639954 - 0.0278908214j, 0.0743492174 + 0.1399318836j, -0.0054203446 - 0.0686743314j, 0.0837810218 + 0.2054731648j, 0.0388787606 + 0.0215393620j, -0.1685355007 + 0.0811159009j, 0.0697440903 - 0.0166203031j, 0.0139277839 - 0.1776403973j, 0.0097958974 + 0.0000000000j, -0.0817098709 - 0.0000000000j, 0.1574186091 + 0.0000000000j, -0.0642897065 + 0.0000000000j, -0.1422769953 - 0.0000000000j, -0.0757410616 - 0.0000000000j, 0.0763281347 + 0.0000000000j, 0.1776931661 + 0.0000000000j, 0.1786282242 + 0.0000000000j, -0.1929859281 - 0.0000000000j, 0.1029937050 + 0.0000000000j, -0.0733178314 - 0.0000000000j, 0.0441541363 + 0.0000000000j, -0.0326224965 + 0.0000000000j, 0.0978162649 - 0.0000000000j, 0.2131649834 - 0.0000000000j, -0.1493295529 - 0.0000000000j, -0.1108689717 - 0.0000000000j, 0.1254673818 + 0.0000000000j, -0.1759450985 + 0.0000000000j)
- (0.0000000000 - 0.0000000000j, 0.0000000000 + 0.0000000000j, -0.1847350977 - 0.1719760509j, -0.1952338858 - 0.0665553498j, 0.0012870934 + 0.0030312845j, -0.1716094901 + 0.0044144506j, -0.2179477098 - 0.0376360628j, -0.1832499591 + 0.1736497735j, -0.0568290244 - 0.1870600297j, -0.0319874503 - 0.0134779975j, 0.0563370577 - 0.1927665906j, -0.1973417738 + 0.0392524036j, -0.0136061644 - 0.0937862777j, -0.1195975482 + 0.0579884467j, -0.0001232858 + 0.1151121456j, 0.0184891774 - 0.1179433713j, 0.1153812284 + 0.0000000000j, -0.1145810153 - 0.0000000000j, 0.0006064265 + 0.0000000000j, -0.0591643999 + 0.0000000000j, 0.0866807740 - 0.0000000000j, -0.1397245429 - 0.0000000000j, 0.1659822923 + 0.0000000000j, 0.0712636302 + 0.0000000000j, -0.0135309028 + 0.0000000000j, -0.1044634009 - 0.0000000000j, -0.1670380348 + 0.0000000000j, -0.1741992884 + 0.0000000000j, 0.0573653324 - 0.0000000000j, 0.1572752638 - 0.0000000000j, 0.0158008587 + 0.0000000000j, -0.0475925898 - 0.0000000000j, 0.1401559632 + 0.0000000000j, 0.1637988310 - 0.0000000000j, -0.2435004135 + 0.0000000000j, 0.1867822375 - 0.0000000000j)

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

- (-0.0666666667 + 0.0000000000j, 0.0833333333 - 0.1443375673j, -0.0789273065 + 0.2642269563j, -0.1304455535 - 0.0318985738j, -0.0702234384 - 0.0002051692j, 0.0575725851 + 0.0450831786j, -0.0379160781 + 0.0519053592j, -0.0801573123 - 0.2604193897j, 0.0993543269 - 0.0337084321j, 0.0617888017 + 0.1339359385j, 0.0252208408 - 0.1347606160j, -0.0019645723 - 0.0569574393j, -0.0808373872 - 0.1264581593j, 0.1156152384 + 0.2136846392j, -0.0971693116 + 0.1184091019j, 0.2602708859 + 0.0000000000j, -0.0238979339 + 0.0000000000j, 0.1336454972 - 0.0000000000j, 0.1465080530 + 0.0000000000j, 0.1014846670 - 0.0000000000j, -0.0283298328 - 0.0000000000j, 0.0226225899 + 0.0000000000j, 0.0710156844 - 0.0000000000j, 0.0849875003 - 0.0000000000j, -0.2724098376 -

0.0000000000j, 0.0639847341 + 0.0000000000j, -0.1205300608 - 0.0000000000j, 0.0112540943 - 0.0000000000j, -0.2580947349 - 0.0000000000j, 0.0424236622 + 0.0000000000j, 0.3815806584 + 0.0000000000j, -0.0086501811 - 0.0000000000j, 0.0135518340 - 0.0000000000j, 0.1414763724 + 0.0000000000j, 0.1709387926 + 0.0000000000j, -0.1601180047 - 0.0000000000j)

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

- (0.0333333333-0.1290994449j, -0.1666666667+0.0000000000j, 0.0380526214-0.1129794991j, -0.0051229032+0.0341399368j, 0.0348762205+0.1290657179j, -0.0196103442+0.1096070869j, -0.2118580385+0.0587889665j, 0.0444780027+0.1117838892j, 0.0613221927+0.0618027071j, -0.1583591747-0.0055776308j, 0.0621838879+0.0296430096j, -0.2198354914-0.0301800892j, 0.2769847793+0.0000000000j, 0.1545161812+0.1053980746j, 0.2693050166+0.0000000000j, 0.1468772048+0.1008820134j, -0.0280354719-0.0000000000j, -0.0521807204-0.0000000000j, 0.2403502089+0.0000000000j, 0.0720058512-0.0000000000j, -0.0670229490-0.0000000000j, -0.3344095935+0.0000000000j, -0.0553843758-0.0000000000j, -0.0891257219-0.0000000000j, -0.0337060757+0.0000000000j, 0.0327218130+0.0000000000j, 0.1661857322+0.0000000000j, -0.2120964331-0.0000000000j, -0.2572915653+0.0000000000j, 0.3443592762+0.0000000000j, 0.2266324096+0.0000000000j, 0.1335771327-0.0000000000j, -0.0034552872+0.0000000000j, -0.2067643808-0.0000000000j, -0.0859153562-0.0000000000j, -0.1809474650-0.0000000000j)

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

- (0.0000000000-0.0000000000j, -0.0000000000-0.0000000000j, -0.1438816438-0.1339184353j, 0.0518146140-0.1461918710j, 0.0010021384+0.0023608137j, 0.1448846811-0.0293343876j, 0.0486352825+0.0948440639j, -0.1440177828+0.1327952012j, -0.1458594711+0.1108556873j, -0.0082389788+0.0284449982j, -0.1644681079-0.0184923125j, 0.0469188714-0.1111538165j, -0.1127521183-0.1886816750j, 0.2937300453+0.0000000000j, -0.0934218635+0.2102736004j, 0.1349565576+0.2205999857j, 0.1223146154+0.0000000000j, -0.1067965772+0.0000000000j, -0.1857951915-0.0000000000j, -0.1481389614-0.0000000000j, -0.2121498323-0.0000000000j, 0.3272384649+0.0000000000j, 0.2324769979+0.0000000000j, 0.1942334295+0.0000000000j, 0.2381328220-0.0000000000j, -0.1859880247-0.0000000000j, 0.3033950734+0.0000000000j, -0.2359605755-0.0000000000j, 0.3142360018+0.0000000000j, 0.1643330753-0.0000000000j, -0.2194659660-0.0000000000j, -0.0071073330-0.0000000000j, -0.1461531990-0.0000000000j, -0.2232173567-0.0000000000j, -0.0563612218-0.0000000000j, 0.3158620865+0.0000000000j)

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

- (0.0333333333-0.1290994449j, -0.1666666667+0.0000000000j, -0.0168251347+0.1514284706j, -0.1466420335+0.1150566621j, 0.0313889226+0.1285619468j, -0.0355345800+0.2480384279j, 0.0714509024+0.1455726934j, -0.0119813490-0.1513562693j, 0.2777753086+0.0000000000j, -0.1739785266-0.0288633125j, 0.1694961883-0.0679867411j, 0.0745136693-0.1083793966j, -0.0441875925-0.0044686056j, -0.1722508668+0.0266976873j, -0.0704472465+0.0308232192j, -0.0498278580-0.1570886051j, 0.0716292896-0.0000000000j, -0.1455113812+0.0000000000j, 0.1267275106+0.0000000000j, 0.0623672528+0.0000000000j, 0.0618098795+0.0000000000j, 0.2339941783+0.0000000000j, 0.3721216421+0.0000000000j, 0.1571719634+0.0000000000j, 0.3158890379-0.0000000000j, -0.0891942323+0.0000000000j, 0.0247319803-0.0000000000j, 0.1347911375+0.0000000000j, -0.0887693815-0.0000000000j, -0.0821070957-0.0000000000j, -0.1035453238+0.0000000000j, 0.1665078796+0.0000000000j, -0.3208468776+0.0000000000j, -0.0311271838+0.0000000000j, 0.1387418649+0.0000000000j, -0.2390796656-0.0000000000j)

0.5000000000 - 0.8660254038j: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- (-0.0000000000-0.0000000000j, 0.0000000000-0.0000000000j, -0.1816455273+0.1339184353j, 0.0399783192+0.2023551797j, -0.0024510415+0.0016318722j, -0.0697543393+0.0042600924j, 0.0763800684+0.2075662848j, -0.1814315843-0.1327952012j, 0.0264130412-0.1611429753j, 0.0276660134-0.0209629458j, 0.1387722356+0.1451726184j, 0.0646773082-0.1905291911j, 0.1346773695+0.1891561052j, 0.1100182421+0.0745802916j, 0.1021230284-0.1964227343j, 0.0928973671+0.0749837830j, 0.1902385739+0.0000000000j, -0.1787276324-0.0000000000j, -0.1769407161-0.0000000000j, 0.0484841754+0.0000000000j, -0.0764286263-0.0000000000j, -0.2131176402-0.0000000000j, -0.2201749196-0.0000000000j, -0.1532619801-0.0000000000j, -0.1162760277-0.0000000000j, 0.2860200374+0.0000000000j, -0.0541202446-0.0000000000j, -0.0501227985-0.0000000000j, 0.2521943377-0.0000000000j, -0.1410496095+0.0000000000j, -0.1216590242-0.0000000000j, 0.0319214375+0.0000000000j, -0.2037083783-0.0000000000j, 0.1374431640+0.0000000000j, 0.0546220604-0.0000000000j, 0.2265154719+0.0000000000j)

0.5000000000 + 0.8660254038j: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- $(0.2000000000+0.0000000000j, -0.0000000000+0.0000000000j, 0.0150012195+0.1475073559j, 0.1125348619-0.2305783432j, 0.1981514982-0.0008490071j, -0.0196011170+0.0325770663j, -0.1341997959-0.1180248628j, 0.0145324768-0.1578635259j, 0.1038363798-0.0107013069j, -0.0071514117+0.0423206099j, -0.2370211019-0.0119852151j, -0.1374799014+0.0943193482j, -0.0550971158+0.2212388843j, 0.0368467806+0.1797973894j, -0.0559386667-0.1928242198j, 0.1656261034-0.0815595974j, -0.0210686409+0.0000000000j, -0.1669535789+0.0000000000j, 0.1045217375+0.0000000000j, -0.2177457654-0.0000000000j, -0.0119846025-0.0000000000j, 0.1778663426+0.0000000000j, -0.1790485743+0.0000000000j, -0.1843522870+0.0000000000j, -0.0477015686-0.0000000000j, 0.2479171208+0.0000000000j, -0.1343542445-0.0000000000j, -0.0681300078+0.0000000000j, -0.0223934959-0.0000000000j, 0.2042170649+0.0000000000j, -0.0928057650+0.0000000000j, -0.0215554721+0.0000000000j, -0.0173527682-0.0000000000j, 0.2228981705+0.0000000000j, 0.2605763128+0.0000000000j, 0.0327164366-0.0000000000j)$

$0.5000000000 - 0.8660254038j$: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- $(-0.0666666667-0.2581988897j, 0.0833333333+0.1443375673j, -0.1063768976+0.0176990810j, 0.0928477520-0.0970198763j, -0.0673109465+0.2592907690j, -0.0423326631+0.2015061752j, -0.0259933206-0.0587889665j, -0.0937818455-0.0123278495j, 0.1419539599-0.0252442841j, 0.0850975244-0.1204786412j, -0.1293165372+0.0455384192j, -0.0483443032+0.0301800892j, 0.0714089950+0.1019889084j, -0.2428639452-0.0067165861j, 0.0062607700-0.0730044235j, -0.1301354430-0.2254011991j, -0.3484404033-0.0000000000j, 0.1001961800-0.0000000000j, 0.0532516041+0.0000000000j, 0.0162426596-0.0000000000j, 0.1491546341+0.0000000000j, 0.1467581402+0.0000000000j, 0.0207256307+0.0000000000j, 0.1265766520+0.0000000000j, 0.0453325766+0.0000000000j, -0.0053687940-0.0000000000j, -0.0771723290-0.0000000000j, -0.2030186974-0.0000000000j, -0.0086588993-0.0000000000j, 0.0785279519+0.0000000000j, 0.2920254428+0.0000000000j, -0.0432232996+0.0000000000j, 0.1377453070+0.0000000000j, -0.2192578790-0.0000000000j, -0.1489583386+0.0000000000j, -0.0280908834-0.0000000000j)$

$0.5000000000 + 0.8660254038j$: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- $(-0.0666666667+0.2581988897j, -0.1666666667+0.0000000000j, -0.0662202988-0.0311069883j, 0.1611267142-0.0489663313j, -0.0665554526-0.2571084916j, -0.0813173801-0.1364749867j, 0.1551988164+0.0651838935j, -0.0784842549+0.0346754054j, -0.1022785095-0.1532916593j, -0.1491424880+0.0269352949j, -0.1238619713+0.1127946343j, 0.1343755417-0.0533124519j, -0.1219694943-0.0120821338j, -0.0158065381+0.1485066301j, -0.0907820263-0.0181799737j, 0.0973090680-0.1207048312j, -0.2171974408+0.0000000000j, -0.0559183761-0.0000000000j, 0.2414807613-0.0000000000j, 0.4654206451+0.0000000000j, 0.2834714949+0.0000000000j, -0.0689435453-0.0000000000j, -0.0942968872+0.0000000000j, 0.0789460816-0.0000000000j, 0.0544024379+0.0000000000j, -0.0504696141-0.0000000000j, 0.0812395255+0.0000000000j, -0.0583831627-0.0000000000j, -0.1432538729+0.0000000000j, 0.2268390545+0.0000000000j, 0.0885491206-0.0000000000j, 0.1235721072-0.0000000000j, 0.0636667604-0.0000000000j, -0.0214544875-0.0000000000j, -0.1332466924+0.0000000000j, -0.1373087451+0.0000000000j)$

$0.5000000000 + 0.8660254038j$: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- $(0.0000000000+0.0000000000j, 0.0000000000+0.0000000000j, 0.3255271711+0.0000000000j, -0.2559541337+0.0178311224j, 0.0014489031-0.0039926859j, -0.0751303418+0.0250742952j, -0.0351126315+0.1752328638j, 0.3254493671+0.0000000000j, 0.1194464299+0.0502872880j, -0.0330750174-0.0273536091j, 0.1288900517-0.1992736879j, -0.0129430009-0.1662207612j, -0.0219252512-0.0004744302j, 0.1372857165-0.1218089427j, -0.0087011649-0.0138508661j, -0.0121803684+0.1842162117j, -0.3085851341+0.0000000000j, -0.2350203629+0.0000000000j, -0.0833502543+0.0000000000j, -0.0590436397-0.0000000000j, 0.0233340048-0.0000000000j, -0.0300597362+0.0000000000j, 0.0985978785+0.0000000000j, 0.3760291031-0.0000000000j, 0.0673624008+0.0000000000j, -0.1007313168-0.0000000000j, 0.0851133046-0.0000000000j, 0.1032060776+0.0000000000j, 0.1204256433-0.0000000000j, -0.0680387479-0.0000000000j, -0.1910047188+0.0000000000j, 0.0218300502+0.0000000000j, -0.0911493709-0.0000000000j, -0.0602299220-0.0000000000j, 0.0274189175+0.0000000000j, 0.1994744258-0.0000000000j)$

$0.5000000000 - 0.8660254038j$: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- $(0.0333333333+0.1290994449j, 0.0833333333+0.1443375673j, -0.0082574854-0.0985058751j, -0.1229694439-0.1150566621j, 0.0344816438-0.1284926734j, 0.0056073217+0.2539019526j, -0.0211485005-0.1669980643j, -0.0170637165+0.0979869787j, 0.2239310172+0.0868435375j, 0.0512445944-0.1426288308j, -0.0357520330-0.1636649309j, -0.0210178331+0.1430288587j, -0.0736379609-0.0015387167j, 0.1365137833-0.0605644515j, -0.0492827952+0.0020388439j, 0.0558789161+0.1446245405j, 0.0663220730+0.0000000000j, -0.1441017698+0.0000000000j, 0.1166946142+0.0000000000j, 0.3235938432+0.0000000000j, 0.1424927390+0.0000000000j, -0.1590410789+0.0000000000j, 0.0431339231+0.0000000000j, -0.0950968812+0.0000000000j, -0.0245243189+$

0.0000000000j, 0.1676185221 + 0.0000000000j, -0.0323502510 - 0.0000000000j, 0.1766624892 + 0.0000000000j, 0.0973079163 - 0.0000000000j, -0.2473475693 - 0.0000000000j, -0.0037672703 + 0.0000000000j, 0.3606692549 + 0.0000000000j, 0.2152878940 + 0.0000000000j, -0.1001292144 - 0.0000000000j, 0.0609501850 - 0.0000000000j, -0.1065419633 - 0.0000000000j)

0.5000000000 - 0.8660254038j: Bezárt szög: -60.0000000000 360 / bezárt szög: -6.0000000000

- (-0.0666666667+0.2581988897j, -0.1666666667-0.0000000000j, -0.0703596572+0.0142926106j, 0.0983180494+0.0445319779j, -0.0671307172-0.2572597893j, 0.0987144868+0.0509467033j, -0.1189256796-0.2059853194j, -0.0852396798-0.0110761417j, 0.0455100355+0.0531351054j, -0.1457987590+0.0004183143j, 0.0315427025+0.0957292941j, -0.1340898973+0.2322505149j, -0.1102877556-0.1235282704j, -0.1296345579-0.0271706638j, -0.0760048602+0.0896247266j, -0.0994658972-0.0767583840j, -0.1014420215+0.0000000000j, -0.1161178523-0.0000000000j, -0.2912281858-0.0000000000j, -0.2336398512-0.0000000000j, -0.2721220926-0.0000000000j, -0.1069962806+0.0000000000j, 0.0138461915+0.0000000000j, 0.1127307344+0.0000000000j, -0.0347416057+0.0000000000j, 0.1976554180+0.0000000000j, 0.0353899255+0.0000000000j, 0.0934592325+0.0000000000j, 0.1277608190-0.0000000000j, -0.0906607376+0.0000000000j, 0.0382317985-0.0000000000j, -0.1232975292+0.0000000000j, -0.0230695342+0.0000000000j, 0.1841227360+0.0000000000j, -0.1273130373-0.0000000000j, 0.0626606007+0.0000000000j)

0.5000000000 + 0.8660254038j: Bezárt szög: 60.0000000000 360 / bezárt szög: 6.0000000000

- (-0.0666666667-0.0000000000j, 0.0833333333-0.1443375673j, -0.0978092482-0.2322352646j, -0.0877248488+0.0628799395j, -0.0642182253+0.0022361488j, -0.0011907613+0.2073696998j, 0.2378513592+0.0000000000j, -0.0988642130+0.2370153985j, 0.0881096685+0.0615992535j, 0.0732616503+0.1260562720j, 0.0671326494-0.0751814287j, 0.2681797946+0.0000000000j, 0.0419586265+0.1049187972j, 0.0883477640-0.0986814885j, 0.0274252213-0.1017887989j, -0.0167417619+0.1245191857j, 0.1860744717-0.0000000000j, -0.0480510684+0.0000000000j, -0.1033561940-0.0000000000j, -0.3923419769+0.0000000000j, 0.2834714949+0.0000000000j, 0.1009297982+0.0000000000j, -0.0942968872+0.0000000000j, 0.0789460816-0.0000000000j, 0.0544024379-0.0000000000j, -0.0504696141-0.0000000000j, -0.1840776236+0.0000000000j, -0.0583831627-0.0000000000j, -0.0150583202+0.0000000000j, 0.2268390545+0.0000000000j, 0.1364307523-0.0000000000j, 0.1235721072-0.0000000000j, 0.0507270685+0.0000000000j, -0.0214544875+0.0000000000j, 0.1058443580-0.0000000000j, -0.1040973886+0.0000000000j)

-0.2500000000 - 0.9682458366j: Bezárt szög: -104.4775121859 360 / bezárt szög: -3.4457175757

- (0.0333333333+0.1290994449j, 0.0833333333+0.1443375673j, 0.0408746851-0.1512474572j, -0.0105932006-0.1074119174j, 0.0353472179-0.1288605487j, -0.0379622409-0.1546902655j, -0.1189256796+0.2059853194j, 0.0356793096+0.1486355005j, -0.1606765196-0.0280942750j, 0.0725371087-0.1264745863j, -0.0986753518-0.0205478654j, -0.1340898973-0.2322505149j, -0.1961473921+0.1264581593j, 0.0412867939+0.1258521523j, -0.1721357050-0.1184091019j, 0.1162076590-0.0477608018j, -0.0974450421+0.0000000000j, 0.0401323253-0.0000000000j, 0.0214299532-0.0000000000j, -0.2505151749-0.0000000000j, 0.1424927390+0.0000000000j, 0.1910273319-0.0000000000j, 0.0431339231+0.0000000000j, -0.0950968812+0.0000000000j, -0.0245243189+0.0000000000j, 0.1676185221-0.0000000000j, -0.0704878470+0.0000000000j, 0.1766624892-0.0000000000j, -0.2556201095+0.0000000000j, -0.2473475693+0.0000000000j, 0.2287471432-0.0000000000j, 0.3606692549-0.0000000000j, -0.1008940651+0.0000000000j, -0.1001292144-0.0000000000j, -0.0883525193+0.0000000000j, -0.1348641704+0.0000000000j)

-0.2500000000 + 0.9682458366j: Bezárt szög: 104.4775121859 360 / bezárt szög: 3.4457175757

- (-0.0000000000-0.0000000000j, 0.0000000000+0.0000000000j, -0.1407920734+0.1719760509j, -0.1525131811+0.0282231635j, -0.0027359965+0.0009614014j, 0.2467398319-0.0294887457j, 0.0578197275-0.0895414221j, -0.1421994080-0.1736497735j, -0.0626174055+0.1367727417j, -0.0205146017-0.0213576640j, 0.0982488663-0.1331874033j, 0.0728025931+0.0962098429j, 0.0355314156+0.0942607079j, -0.1468650226-0.2543776811j, 0.0088244508-0.1012612795j, -0.2585234704+0.0065758144j, 0.0844832462+0.0000000000j, -0.0772674267+0.0000000000j, -0.1028635917-0.0000000000j, -0.0118434036-0.0000000000j, 0.0028498880+0.0000000000j, 0.0685699330+0.0000000000j, -0.2115332390+0.0000000000j, -0.1056659853+0.0000000000j, -0.0932106735+0.0000000000j, 0.0257239096+0.0000000000j, 0.3665871005+0.0000000000j, -0.0494536890+0.0000000000j, 0.0127903002+0.0000000000j, 0.1474037044-0.0000000000j, -0.0906498212+0.0000000000j, 0.3538494491+0.0000000000j, -0.0002789333-0.0000000000j, -0.0944159958-0.0000000000j, -0.2677439599+0.0000000000j, 0.3108597200+0.0000000000j)

-0.2500000000 + 0.9682458366j: Bezárt szög: 104.4775121859 360 / bezárt szög: 3.4457175757

- (0.033333333+0.1290994449j, -0.1666666667-0.2886751346j, 0.1806169706+0.0280705770j, -0.0098566273+0.0097213586j, 0.0337698150-0.1313726602j, -0.0028150551+0.0620658120j, -0.0292382473+0.0182207460j, 0.1729416675-0.0299112477j, 0.1329714966+0.0674768025j, -0.1640081322+0.2840704178j, 0.0262963347-0.0270461067j, 0.0046848281+0.0173202432j, -0.0717135352+0.2036936976j, -0.0036680802-0.0072992541j, -0.0639366754-0.2208780020j, -0.0186408402+0.0057928756j, 0.0151656339+0.0000000000j, 0.3055404901-0.0000000000j, -0.1480307620-0.0000000000j, -0.0992770359-0.0000000000j, 0.0974907964-0.0000000000j, 0.1222090336+0.0000000000j, -0.0068565635-0.0000000000j, -0.1644649509+0.0000000000j, -0.2944396618+0.0000000000j, 0.1593472569+0.0000000000j, 0.0610825253-0.0000000000j, -0.2949706808+0.0000000000j, 0.2873223854-0.0000000000j, 0.1889903621+0.0000000000j, -0.1235303697+0.0000000000j, -0.0737035309+0.0000000000j, 0.1009490151+0.0000000000j, -0.0175515846+0.0000000000j, -0.3199137143-0.0000000000j, 0.1739588292-0.0000000000j)

-0.2500000000 - 0.9682458366j: Bezárt szög: -104.4775121859 360 / bezárt szög: -3.4457175757

- (0.1333333333-0.0000000000j, 0.0833333333-0.1443375673j, -0.1937834285-0.0246497084j, -0.0153269247-0.1318304955j, 0.1327024511+0.0024808793j, -0.1177137862-0.0563566455j, 0.0636941117+0.1654170989j, -0.1924154429+0.0185070164j, -0.0700914335-0.1696670616j, 0.0668881512+0.1631734624j, -0.1345629050-0.0772369817j, 0.0904304222-0.1847501825j, 0.1716317043+0.0054630529j, -0.1168974674+0.0131548236j, 0.1865209989+0.0098738086j, -0.0493103860-0.1428499395j, -0.1631125841-0.0000000000j, 0.1264468993-0.0000000000j, -0.2738419901-0.0000000000j, -0.1046875199+0.0000000000j, -0.0532007273+0.0000000000j, -0.1168922252-0.0000000000j, 0.2771550342+0.0000000000j, 0.1708958334-0.0000000000j, 0.0570101031+0.0000000000j, 0.0792539027+0.0000000000j, 0.2628361152+0.0000000000j, 0.3202445202+0.0000000000j, 0.2894987839-0.0000000000j, -0.1969586973-0.0000000000j, -0.2938361933+0.0000000000j, 0.2054502883-0.0000000000j, 0.1671390803+0.0000000000j, -0.0534496424-0.0000000000j, -0.0661802440-0.0000000000j, 0.2124154329+0.0000000000j)

-0.2500000000 - 0.9682458366j: Bezárt szög: -104.4775121859 360 / bezárt szög: -3.4457175757

- (-0.0666666667-0.2581988897j, 0.0833333333+0.1443375673j, -0.0613840854+0.0103570978j, 0.1729630090+0.0694673953j, -0.0670206370+0.2587715959j, 0.0941296412-0.0196643529j, 0.0903441994-0.1346646433j, -0.0477942443-0.0074308747j, -0.0948650319+0.0662446681j, 0.1119856252-0.1362381675j, -0.0258698492+0.1807813754j, 0.0566024761+0.1187204288j, -0.0394186975+0.1185396477j, 0.1092463089+0.1358247829j, -0.1018149738-0.0856476691j, 0.1609566516+0.0353921117j, -0.0072250353-0.0000000000j, -0.2376149417+0.0000000000j, -0.0083834857-0.0000000000j, -0.0284059987-0.0000000000j, -0.0283298328+0.0000000000j, 0.0093636631+0.0000000000j, 0.0710156844-0.0000000000j, 0.0849875003-0.0000000000j, -0.2724098376-0.0000000000j, 0.0639847341+0.0000000000j, 0.0176919628-0.0000000000j, 0.0112540943-0.0000000000j, 0.0997825417+0.0000000000j, 0.0424236622+0.0000000000j, -0.1566007855+0.0000000000j, -0.0086501811-0.0000000000j, 0.1008419949-0.0000000000j, 0.1414763724+0.0000000000j, -0.1983411269-0.0000000000j, -0.0812881290+0.0000000000j)

-0.2500000000 + 0.9682458366j: Bezárt szög: 104.4775121859 360 / bezárt szög: 3.4457175757

- (0.3333333333+0.0000000000j, -0.1666666667+0.2886751346j, 0.0028633183-0.0110607878j, 0.0133472572+0.0036754103j, 0.3333049907+0.0000000000j, -0.0675605640-0.0280396716j, 0.0303987526+0.0162106919j, 0.0035486181-0.0065613082j, 0.0073319050-0.0192253932j, -0.1640081322-0.2840704178j, 0.0102744481+0.0362963472j, -0.0173421846-0.0046029414j, -0.0181427810+0.0375458319j, -0.0044872994+0.0068262776j, 0.0284593038+0.0134723231j, 0.0043036427-0.0190398790j, 0.3397081033+0.0000000000j, 0.3389898074+0.0000000000j, -0.0547743130-0.0000000000j, -0.0140350286+0.0000000000j, 0.0233340048+0.0000000000j, -0.0019265167-0.0000000000j, 0.0985978785+0.0000000000j, 0.3760291031+0.0000000000j, 0.0673624008-0.0000000000j, -0.1007313168+0.0000000000j, 0.0177247935-0.0000000000j, 0.1032060776+0.0000000000j, 0.0378865499-0.0000000000j, -0.0680387479-0.0000000000j, -0.0339751540+0.0000000000j, 0.0218300502+0.0000000000j, -0.0232444580+0.0000000000j, -0.0602299220-0.0000000000j, -0.0000165832-0.0000000000j, 0.0419317079+0.0000000000j)

-0.2500000000 - 0.9682458366j: Bezárt szög: -104.4775121859 360 / bezárt szög: -3.4457175757

- (0.1333333333-0.0000000000j, 0.0833333333-0.1443375673j, -0.1529299747+0.0134079072j, 0.0019796675+0.1281550852j, 0.1324174961+0.0018104085j, 0.1987803850-0.0901054836j, -0.0940928642-0.1816277907j, -0.1531832666-0.0223475559j, -0.1591218803+0.1282486554j, 0.0971199810+0.1208969554j, 0.1242884569+0.0409406344j, -0.0730882375+0.1893531240j, 0.0724857505-0.0894323444j, 0.1213847668-0.0199811013j, 0.0932224213+0.1050352633j, 0.0450067434+0.1618898185j, -0.3368797908-0.0000000000j, 0.2694202649-0.0000000000j, 0.0895251716-0.0000000000j, 0.0805915373-0.0000000000j, 0.4231143459+0.0000000000j, -0.0104586524+0.0000000000j, 0.1603702749-0.0000000000j, 0.0895151858-0.0000000000j, 0.1230887925-

0.0000000000j, 0.0914249984 + 0.0000000000j, -0.1501592259 - 0.0000000000j, 0.1677330155 - 0.0000000000j, -0.0950398963 + 0.0000000000j, -0.1679122191 - 0.0000000000j, -0.0420136607 - 0.0000000000j, 0.1303919130 - 0.0000000000j, -0.2657360293 - 0.0000000000j, -0.0271677061 + 0.0000000000j, 0.1009494169 - 0.0000000000j, -0.1002203681 + 0.0000000000j)

-0.2500000000 + 0.9682458366j: Bezárt szög: 104.4775121859 360 / bezárt szög: 3.4457175757

- (-0.0666666667 - 0.0000000000j, 0.0833333333 - 0.1443375673j, -0.0528164360 - 0.2395772479j, -0.0381572703 + 0.1640229934j, -0.0639279158 + 0.0017169758j, 0.1352715429 - 0.0138008282j, -0.1340503158 + 0.1018141709j, -0.0528766118 + 0.2419123732j, -0.1487093232 + 0.1530882057j, 0.0978978936 + 0.1156935360j, 0.1596140044 + 0.0508702966j, -0.1133577086 - 0.0897164068j, -0.0688690659 + 0.1214695366j, -0.1207072452 - 0.0879421785j, -0.0806505225 - 0.1144320444j, -0.1531879842 - 0.0239197093j, 0.0703190523 + 0.0000000000j, 0.0121484079 + 0.0000000000j, 0.4293527531 + 0.0000000000j, 0.3067185195 - 0.0000000000j, -0.2721220926 + 0.0000000000j, 0.1389825336 + 0.0000000000j, 0.0138461915 - 0.0000000000j, 0.1127307344 - 0.0000000000j, -0.0347416057 + 0.0000000000j, 0.1976554180 + 0.0000000000j, -0.1382280236 + 0.0000000000j, 0.0934592325 - 0.0000000000j, -0.2860730121 + 0.0000000000j, -0.0906607376 + 0.0000000000j, 0.1867480743 - 0.0000000000j, -0.1232975292 - 0.0000000000j, 0.1374633631 + 0.0000000000j, 0.1841227360 + 0.0000000000j, 0.0999107029 - 0.0000000000j, -0.3040667344 + 0.0000000000j)

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

- (0.0333333333 - 0.1290994449j, -0.1666666667 + 0.0000000000j, 0.0323070358 + 0.0986868885j, 0.0375978015 + 0.1289184501j, 0.0322544967 + 0.1281940715j, -0.0791041426 - 0.1605537902j, 0.0639093988 + 0.0068836073j, 0.0407616771 - 0.1007077475j, -0.1068322283 - 0.1149378125j, -0.1468863261 - 0.0134572974j, 0.1040956965 + 0.0892221968j, 0.0503088755 + 0.0267773501j, -0.1666970236 + 0.1235282704j, 0.1272487068 - 0.2069680532j, -0.1933001563 - 0.0896247266j, -0.1301354430 + 0.2254011991j, -0.1027522587 - 0.0000000000j, 0.0415419367 + 0.0000000000j, 0.0113970567 - 0.0000000000j, 0.0107114155 - 0.0000000000j, 0.0618098795 - 0.0000000000j, -0.2020079253 - 0.0000000000j, 0.3721216421 + 0.0000000000j, 0.1571719634 - 0.0000000000j, 0.3158890379 + 0.0000000000j, -0.0891942323 - 0.0000000000j, -0.1275700784 + 0.0000000000j, 0.1347911375 + 0.0000000000j, -0.0695428117 + 0.0000000000j, -0.0821070957 + 0.0000000000j, 0.3285251966 - 0.0000000000j, 0.1665078796 - 0.0000000000j, 0.4352407065 + 0.0000000000j, -0.0311271838 - 0.0000000000j, -0.1661441993 + 0.0000000000j, -0.0023264681 + 0.0000000000j)

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

- (-0.2000000000 + 0.0000000000j, -0.0000000000 - 0.0000000000j, 0.1288804243 - 0.0135889207j, 0.1552555666 - 0.1357998299j, -0.1991536366 - 0.0015118066j, -0.1252835640 - 0.0032426788j, 0.1415676414 - 0.1699302220j, 0.1294853061 + 0.0250683247j, 0.0420230913 - 0.1001543804j, 0.0043214369 + 0.0344409433j, -0.1951092933 + 0.0475939721j, 0.1326644655 + 0.1512767875j, 0.1678492341 - 0.0325572093j, 0.0095793061 - 0.1325687383j, 0.1493605302 - 0.0174493806j, -0.1113865444 + 0.0429595883j, 0.1942355532 - 0.0000000000j, -0.0224774548 + 0.0000000000j, 0.1357174228 + 0.0000000000j, 0.0316088517 + 0.0000000000j, -0.0532007273 - 0.0000000000j, 0.0849059723 - 0.0000000000j, 0.2771550342 + 0.0000000000j, 0.1708958334 + 0.0000000000j, 0.0570101031 + 0.0000000000j, 0.0792539027 - 0.0000000000j, -0.1599980172 - 0.0000000000j, 0.3202445202 + 0.0000000000j, -0.1311865908 - 0.0000000000j, -0.1969586973 + 0.0000000000j, 0.0688563204 + 0.0000000000j, 0.2054502883 - 0.0000000000j, -0.2815329093 - 0.0000000000j, -0.0534496424 - 0.0000000000j, 0.0935825783 + 0.0000000000j, 0.0289907008 - 0.0000000000j)

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

- (0.0333333333 - 0.1290994449j, -0.1666666667 + 0.0000000000j, 0.0830454336 - 0.1203214823j, -0.1348057387 - 0.2334903886j, 0.0351665300 + 0.1285465448j, 0.1168519601 - 0.1115634412j, 0.0437061164 + 0.0328504724j, 0.0904656039 + 0.1166808639j, -0.1754967991 + 0.1532916593j, -0.2098835188 + 0.0205446316j, -0.1337441552 - 0.2316516720j, 0.0567552325 - 0.0290040221j, 0.1661570868 + 0.0165507393j, 0.0114609364 - 0.0478826043j, 0.1612292728 - 0.0126432455j, -0.0077686675 - 0.0114724024j, 0.0339384789 + 0.0000000000j, -0.0864061908 + 0.0000000000j, -0.1968411844 - 0.0000000000j, 0.2450169501 + 0.0000000000j, 0.1525291429 + 0.0000000000j, 0.0343342172 - 0.0000000000j, -0.1305207619 + 0.0000000000j, -0.2596915160 + 0.0000000000j, -0.3084351547 + 0.0000000000j, 0.3745425646 + 0.0000000000j, -0.0929140129 - 0.0000000000j, -0.1510042555 - 0.0000000000j, -0.0076373242 + 0.0000000000j, 0.0488481508 + 0.0000000000j, -0.0102962749 + 0.0000000000j, -0.2288361357 - 0.0000000000j, -0.0801409597 + 0.0000000000j, 0.4121109667 + 0.0000000000j, 0.1452527578 - 0.0000000000j, -0.0257278008 + 0.0000000000j)

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

- $(-0.1666666667-0.1290994449j, -0.1666666667-0.0000000000j, 0.0131664579-0.0034208685j, 0.1099957257-0.0657919849j, -0.1664722661+0.1288917808j, 0.1205288413-0.0057091665j, -0.1102478487+0.1723007061j, 0.0194737754+0.0114042313j, -0.0628800630+0.1021902591j, -0.1532598252+0.0236598930j, -0.0975998579+0.0871666438j, -0.1274404969-0.1579728324j, -0.0999181692-0.2091567505j, -0.0779965247-0.0951317410j, -0.1225843235+0.2110041935j, -0.1627040671-0.0419679262j, -0.0533602770+0.0000000000j, 0.1812368712+0.0000000000j, -0.0352609756-0.0000000000j, -0.0612352647-0.0000000000j, 0.0028498880+0.0000000000j, -0.1005561860+0.0000000000j, -0.2115332390-0.0000000000j, -0.1056659853+0.0000000000j, -0.0932106735+0.0000000000j, 0.0257239096+0.0000000000j, -0.2637490025-0.0000000000j, -0.0494536890+0.0000000000j, 0.1455218929-0.0000000000j, 0.1474037044-0.0000000000j, -0.1343300516-0.0000000000j, 0.3538494491+0.0000000000j, -0.1141148956+0.0000000000j, -0.0944159958-0.0000000000j, 0.2951462942-0.0000000000j, -0.0694535862-0.0000000000j)$
- $(0.0333333333+0.1290994449j, 0.0833333333+0.1443375673j, 0.0696415708+0.0881487773j, -0.1348057387+0.2334903886j, 0.0325389932-0.1302789226j, -0.0997369630-0.2342375996j, 0.0065962854-0.0542758434j, 0.0648579608-0.0905561040j, -0.1290659853-0.1530882057j, 0.0871495866-0.1920367749j, 0.2674883104+0.0000000000j, -0.0032593963+0.0636534842j, 0.1130566584-0.1170009310j, -0.0471980199+0.0140158401j, 0.1510977690+0.0836088252j, 0.0138197256-0.0009916622j, -0.0030874973-0.0000000000j, -0.0517887241-0.0000000000j, -0.1022256416+0.0000000000j, 0.0010728170+0.0000000000j, -0.0670229490-0.0000000000j, 0.3663958464+0.0000000000j, -0.0553843758-0.0000000000j, -0.0891257219-0.0000000000j, -0.0337060757+0.0000000000j, 0.0327218130+0.0000000000j, -0.2690238302-0.0000000000j, -0.2120964331-0.0000000000j, 0.0989793721-0.0000000000j, 0.3443592762+0.0000000000j, -0.0016525368-0.0000000000j, 0.1335771327+0.0000000000j, 0.1178491161-0.0000000000j, -0.2067643808-0.0000000000j, 0.0585130219+0.0000000000j, -0.0604586687-0.0000000000j)$
- $(0.0333333333+0.1290994449j, 0.0833333333+0.1443375673j, 0.0655022124+0.1335483762j, 0.0321275041-0.0126334041j, 0.0319637286-0.1304302203j, 0.0802949040-0.0468159097j, 0.1568417577+0.1540799601j, 0.0581025359-0.1363076510j, 0.0187225597+0.0533385591j, 0.0840099573-0.1343542528j, -0.0567635433+0.0390313218j, 0.1360544696-0.1752930756j, 0.1247383971-0.2284470677j, 0.0140193195-0.1865139755j, 0.1658749351+0.1914135255j, -0.1608049888+0.0767583840j, -0.0650614481-0.0000000000j, -0.0175632537+0.0000000000j, 0.3349657517+0.0000000000j, -0.1719382818+0.0000000000j, 0.1525291429+0.0000000000j, -0.0023479643-0.0000000000j, -0.1305207619-0.0000000000j, -0.2596915160-0.0000000000j, -0.3084351547+0.0000000000j, 0.3745425646+0.0000000000j, -0.0099240851-0.0000000000j, -0.1510042555-0.0000000000j, -0.1506748690+0.0000000000j, 0.0488481508+0.0000000000j, 0.2352761478-0.0000000000j, -0.2288361357+0.0000000000j, 0.1945347886-0.0000000000j, 0.4121109667+0.0000000000j, -0.1726550921+0.0000000000j, -0.2156783329-0.0000000000j)$

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

- $(-0.0666666667-0.0000000000j, 0.0833333333-0.1443375673j, -0.0747879482+0.2188273574j, -0.0263209755-0.1845240574j, -0.0696481739-0.0000538714j, -0.1224592818-0.1423385114j, -0.1617951018-0.0109080501j, -0.0734018874-0.2146678426j, -0.0484342181-0.2401351969j, 0.0619929014+0.1651014800j, -0.1436263391-0.1127946343j, -0.1311161454-0.0103410322j, -0.0925191258-0.0150120226j, 0.0630045580-0.1625224702j, -0.1119464776+0.0106044016j, -0.1111287936+0.1216964933j, 0.3173174341+0.0000000000j, -0.2041656244-0.0000000000j, 0.0848729632+0.0000000000j, 0.0568360086+0.0000000000j, 0.1491546341-0.0000000000j, -0.1147718872-0.0000000000j, 0.0207256307-0.0000000000j, 0.1265766520-0.0000000000j, 0.0453325766+0.0000000000j, -0.0053687940-0.0000000000j, -0.0256657691-0.0000000000j, -0.2030186974+0.0000000000j, -0.1496532938-0.0000000000j, 0.0785279519+0.0000000000j, -0.0670455699-0.0000000000j, -0.0432232996-0.0000000000j, -0.0233514781-0.0000000000j, -0.2192578790-0.0000000000j, 0.1215560042+0.0000000000j, -0.2133152503-0.0000000000j)$

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

- $(-0.1666666667-0.1290994449j, -0.1666666667-0.0000000000j, -0.0276869960-0.0414784842j, -0.1065050958+0.0791887539j, -0.1661873110+0.1295622516j, -0.1959653299+0.0280396716j, 0.1114083540-0.1378692682j, -0.0197584009+0.0522588037j, 0.0261503837-0.1957254579j, -0.1747564393-0.0236598930j, 0.1341706407-0.0779164033j, 0.1147831403+0.1706901341j, -0.0007722154-0.1142613532j, 0.0698411452+0.0946587646j, -0.0292857459+0.1158427387j, 0.1483668696+0.0287209228j, -0.1591156047-0.0000000000j, 0.2826970769-0.0000000000j, 0.0388161488+0.0000000000j, -0.1215628437+0.0000000000j, -0.0764286263-0.0000000000j, 0.1811313873-0.0000000000j, -0.2201749196-0.0000000000j, -0.1532619801+0.0000000000j, -0.1162760277+0.0000000000j, 0.2860200374+0.0000000000j, 0.1569583427+0.0000000000j, -0.0501227985-0.0000000000j, -0.0938821445-0.0000000000j, -0.1410496095+0.0000000000j, -0.1033208486+0.0000000000j, 0.0319214375-0.0000000000j, 0.0893145494+0.0000000000j, 0.1374431640+0.0000000000j, -0.0272197261-0.0000000000j, 0.0148906618-0.0000000000j)$

- (0.1333333333 + 0.0000000000j, 0.0833333333 - 0.1443375673j, 0.1276043842 + 0.0207498905j, 0.2696114775 + 0.0000000000j, 0.1335760896 - 0.0016631043j, -0.0128122611 + 0.1561393396j, -0.0503024019 + 0.0214253709j, 0.1262784993 - 0.0272445306j, 0.1971435414 + 0.0870469912j, 0.1227339322 + 0.1714921433j, -0.1337441552 + 0.2316516720j, -0.0534958362 - 0.0346494621j, 0.1613881918 - 0.1064575140j, 0.0357370836 + 0.0338667642j, 0.1925970001 + 0.1038276427j, -0.0060510582 + 0.0124640646j, -0.0409188665 - 0.0000000000j, -0.0222595736 - 0.0000000000j, -0.0192940418 + 0.0000000000j, 0.1373683748 + 0.0000000000j, -0.1422769953 - 0.0000000000j, 0.1077273145 - 0.0000000000j, 0.0763281347 + 0.0000000000j, 0.1776931661 - 0.0000000000j, 0.1786282242 - 0.0000000000j, -0.1929859281 - 0.0000000000j, -0.2058318031 + 0.0000000000j, -0.0733178314 - 0.0000000000j, -0.2024663294 - 0.0000000000j, -0.0326224965 - 0.0000000000j, 0.1271636080 - 0.0000000000j, 0.2131649834 - 0.0000000000j, 0.2637233818 + 0.0000000000j, -0.1108689717 - 0.0000000000j, -0.1528697162 - 0.0000000000j, -0.0654610352 - 0.0000000000j)

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

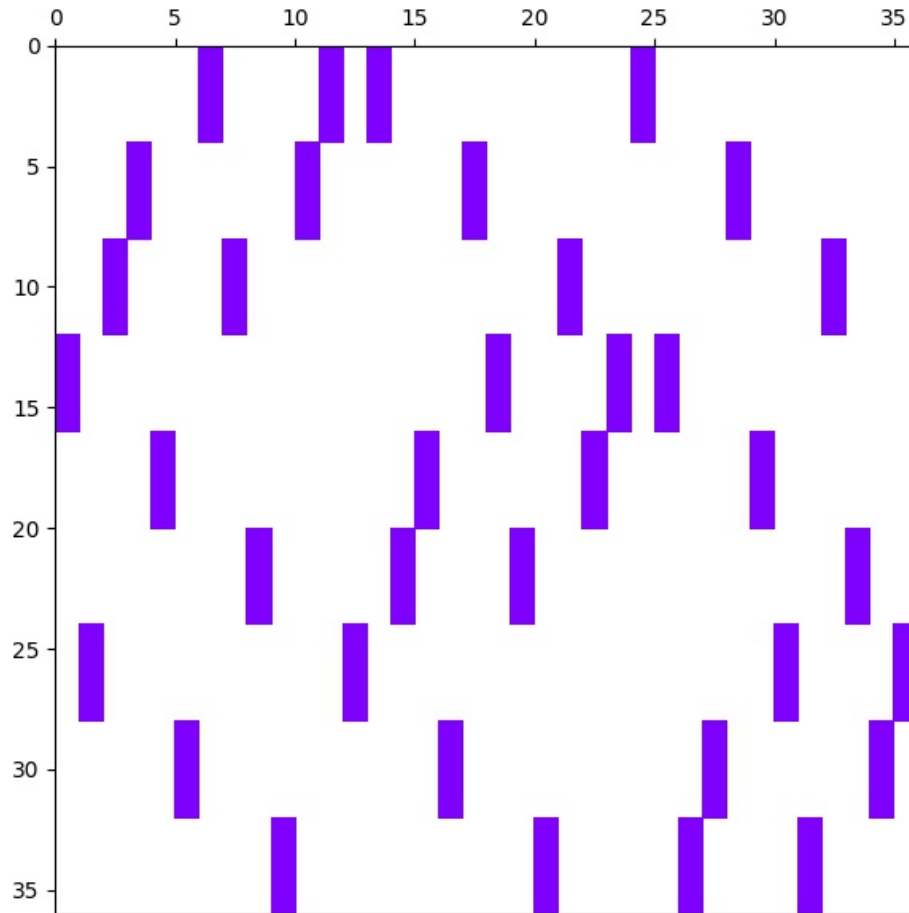
- (-0.1666666667 + 0.1290994449j, 0.0833333333 + 0.1443375673j, 0.0248236777 + 0.0525392720j, -0.1119753932 - 0.0623631003j, -0.1671176797 - 0.1295622516j, 0.2635258939 + 0.0000000000j, 0.2043407129 + 0.0093270846j, 0.0162097828 - 0.0456974954j, -0.0334822887 + 0.2149508511j, 0.0561398442 - 0.1445568485j, -0.0266885990 - 0.1281072783j, 0.2005287344 - 0.0313802916j, 0.0189149963 + 0.0767155213j, -0.0433882421 + 0.1151128423j, 0.0008264421 - 0.1293150618j, 0.1176973238 - 0.1199218924j, -0.0911916462 - 0.0000000000j, 0.2107660217 + 0.0000000000j, 0.0476706242 + 0.0000000000j, 0.0750602931 + 0.0000000000j, -0.2121498323 + 0.0000000000j, -0.3592247179 + 0.0000000000j, 0.2324769979 + 0.0000000000j, 0.1942334295 + 0.0000000000j, 0.2381328220 - 0.0000000000j, -0.1859880247 - 0.0000000000j, -0.2005569753 - 0.0000000000j, -0.2359605755 - 0.0000000000j, -0.1559238086 + 0.0000000000j, 0.1643330753 + 0.0000000000j, -0.0055139069 + 0.0000000000j, -0.0071073330 + 0.0000000000j, 0.0317593701 - 0.0000000000j, -0.2232173567 - 0.0000000000j, 0.0837635562 + 0.0000000000j, -0.0744559528 - 0.0000000000j)

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

- (-0.2000000000 + 0.0000000000j, -0.0000000000 - 0.0000000000j, 0.1697338781 + 0.0244686950j, 0.1006985671 + 0.1179687076j, -0.1994385916 - 0.0021822774j, 0.1912106071 - 0.0369915169j, -0.1064550099 - 0.0053026418j, 0.1687174823 - 0.0157862477j, -0.0470073554 + 0.1977613366j, 0.0287535805 - 0.0070873342j, 0.0662192416 + 0.1516797158j, -0.1197214646 + 0.0149439737j, 0.0687032803 - 0.1274526066j, -0.1468650226 + 0.2543776811j, 0.0560619526 + 0.0777120742j, 0.1235669129 - 0.2271758001j, 0.3680027600 + 0.0000000000j, -0.1654508204 + 0.0000000000j, -0.2276497389 - 0.0000000000j, -0.1536702055 - 0.0000000000j, 0.4231143459 + 0.0000000000j, -0.0215276006 + 0.0000000000j, 0.1603702749 - 0.0000000000j, 0.0895151858 - 0.0000000000j, 0.1230887925 + 0.0000000000j, 0.0914249984 + 0.0000000000j, 0.2529973240 + 0.0000000000j, 0.1677330155 - 0.0000000000j, 0.2533520895 - 0.0000000000j, -0.1679122191 - 0.0000000000j, -0.1829662121 + 0.0000000000j, 0.1303919130 + 0.0000000000j, 0.1513422004 - 0.0000000000j, -0.0271677061 + 0.0000000000j, -0.0735470825 + 0.0000000000j, 0.3416265018 + 0.0000000000j)

5. Szimulációs mátrix

5.1. 2. szimuláció mátrixa



21. ábra. 2. szimuláció mátrixa

5.2. Érme sajátértékek, sajátvektorok

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

- $(-0.2886751346 + 0.0000000000j, 0.5000000000 + 0.0000000000j, 0.6452592969 + 0.0000000000j, -0.6253612149 + 0.0000000000j)$

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

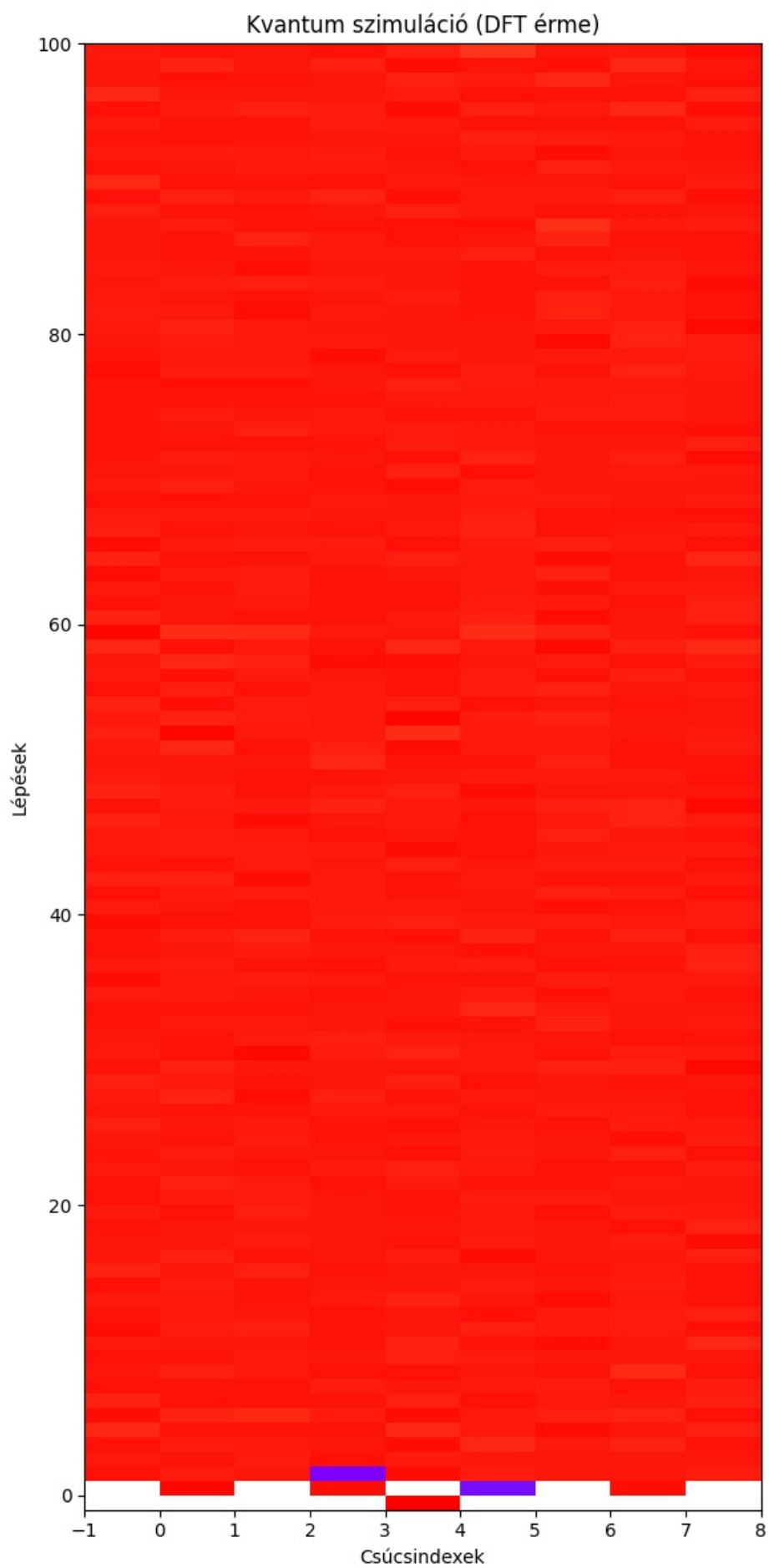
- $(-0.2886751346 + 0.0000000000j, 0.5000000000 - 0.0000000000j, 0.3135528717 + 0.0000000000j, 0.7097313016 + 0.0000000000j)$
- $(-0.2886751346 + 0.0000000000j, 0.5000000000 - 0.0000000000j, -0.5926859351 + 0.0000000000j, -0.2676242533 + 0.0000000000j)$

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

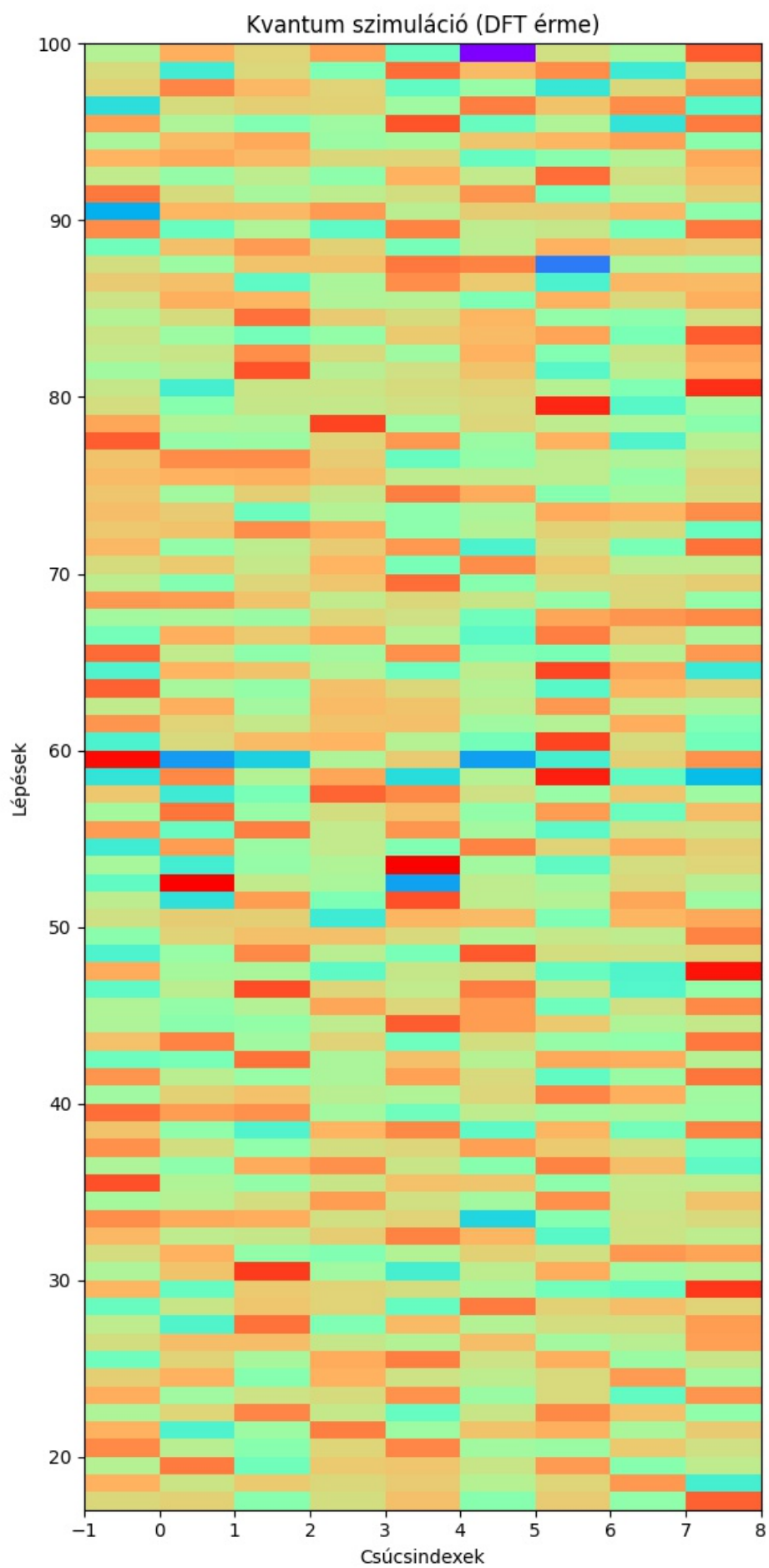
- $(0.8660254038 + 0.0000000000j, 0.5000000000 - 0.0000000000j, -0.3661262334 + 0.0000000000j, 0.1832541665 - 0.0000000000j)$

5.3. Kvantum szimuláció (DFT érme)

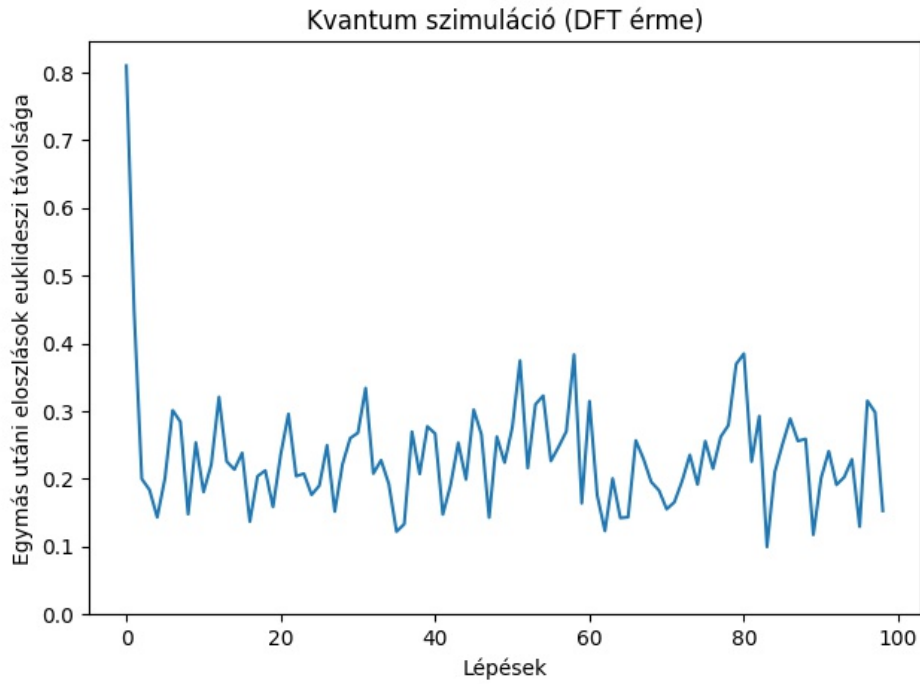
Kezdőcsúcs: 4 Bolyongók: 1 Lépésszám: 100



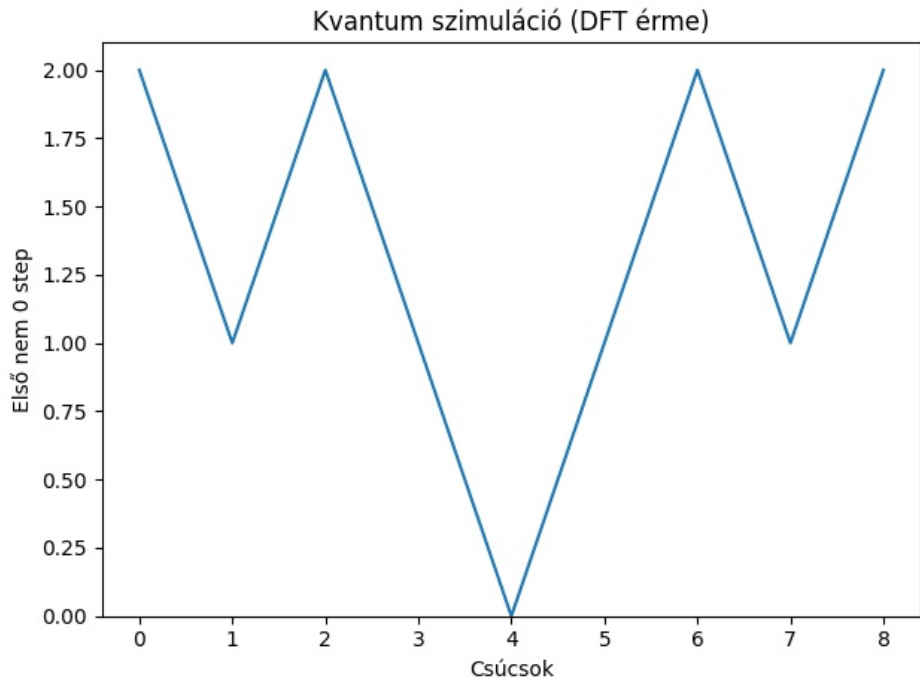
22. ábra. 3. szimuláció



23. ábra. 3. szimuláció levágva az elejét



24. ábra. 3. szimuláció mixing time



25. ábra. 3. szimuláció hitting time

5.4. Sajátértékek, sajátvektorok

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: $56593902016227536.0000000000$

- $(0.0000000000 - 0.0000000000j, -0.0000000000 + 0.0000000000j, -0.1913982292 + 0.0034885135j, 0.0253593563 + 0.0789849553j, -0.2357022604 + 0.0000000000j, -0.0746163042 + 0.1597408093j, 0.0881228693 - 0.0283722731j, 0.1890831839 - 0.1123982520j, 0.0477133950 - 0.1799496201j, 0.2459663375 - 0.0000000000j, -0.1322625663 + 0.1182601911j, -0.1084867855 + 0.0743410290j, -0.0576246157 + 0.0704685002j, 0.2265146784 + 0.0072416466j, -0.0610742765 + 0.1074810533j, 0.1178511302 + 0.2041241452j, -0.1134455081 + 0.0770471820j, -0.1057409525 - 0.1831487021j, 0.1065974707 + 0.0755401395j, -0.1710616494 + 0.1181175409j, 0.0754995833 + 0.0895184568j, -0.1949284754 + 0.0191157387j, -0.0016045175 + 0.1354648946j, 0.1480597497 - 0.1194580204j, 0.1178511302 +$

0.2041241452j, 0.0159470277 - 0.0596436246j, 0.1991713517 + 0.0164228128j, -0.0969576511 - 0.0255177006j, 0.2387825525 - 0.0094793511j, -0.0336705080 - 0.0058180704j, -0.0169611742 - 0.0322906531j, 0.1888922763 - 0.0411536419j, -0.2011307600 - 0.0208403121j, 0.1289421743 + 0.0741304489j, -0.1941450171 + 0.0000000000j, 0.2346340332 + 0.0114514477j)

1.0000000000 - 0.0000000000j: Bezárt szög: -0.0000000000 360 / bezárt szög: -152105395445189504.0000000000

- (0.0000000000+0.0000000000j, -0.0000000000+0.0000000000j, -0.1958657137+0.0007671453j, 0.0269758119+0.0670551564j, -0.2357022604+0.0000000000j, 0.1533210121+0.0039146118j, -0.0643488299+0.1200004964j, 0.1218667987-0.0040239422j, -0.0823265988-0.2343369082j, -0.0518844003+0.1358854363j, 0.2156453073-0.0056196806j, 0.0112244945-0.0154290168j, 0.1332722453+0.1055284829j, -0.1194760091+0.2069385180j, -0.0301587734-0.0861025136j, -0.2357022604-0.0000000000j, -0.1134449111-0.1964922368j, -0.0720712918-0.0713348031j, -0.2134099476-0.0000633741j, -0.0380324481-0.1181175409j, 0.0739299609-0.1093722251j, -0.1691416885+0.0028276442j, -0.1154433809+0.1994472084j, -0.0115868677+0.0354939665j, 0.1178511302-0.2041241452j, -0.0491420207+0.0102546151j, -0.0875381666-0.1825032463j, 0.0278029867+0.0521646974j, -0.1253195368-0.2170598049j, 0.2239719866+0.0176561399j, 0.2845393893-0.0000000000j, -0.0139312087-0.0694807633j, -0.1087894033-0.0160525067j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, -0.0621901968+0.0002877250j)

1.0000000000 + 0.0000000000j: Bezárt szög: 0.0000000000 360 / bezárt szög: 22085425177064392.0000000000

- (-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, -0.1307179068-0.1538428803j, -0.1470120830+0.0580492376j, 0.0000000000-0.0000000000j, -0.1342934442+0.2181844487j, -0.0654203634-0.0384046223j, -0.1022768474+0.0482481773j, 0.1195958875-0.0572443956j, 0.1421652432-0.0441875866j, 0.0022226935-0.0651740216j, -0.1640693470+0.0679370923j, 0.1522748127-0.1938799201j, 0.0751926949+0.1734903547j, -0.1325212888+0.0405122804j, -0.0000000000+0.0000000000j, 0.1733567257+0.0267940413j, -0.0956628207+0.0966879322j, -0.1141110578+0.0254909705j, 0.1842758109-0.0612365709j, 0.2452887984-0.0056596495j, 0.0030226606+0.0626699958j, 0.1469901056-0.0538828008j, -0.1727915514-0.0475667114j, -0.0000000000-0.0000000000j, -0.1211202428-0.1768982991j, -0.1336266372+0.0347039118j, -0.1768366868-0.0256888953j, -0.0963717223+0.0476700748j, 0.3647989260+0.0000000000j, -0.2845393893+0.0000000000j, 0.0159441502-0.0854648523j, 0.0089823811-0.0368928188j, -0.0033002181+0.0826655577j, -0.0502190022-0.1173537779j, -0.0097178923-0.0111637227j)

1.0000000000 + 0.0000000000j: Bezárt szög: 0.0000000000 360 / bezárt szög: 13313893313482656.0000000000

- (-0.0000000000+0.0000000000j, 0.0000000000+0.0000000000j, 0.0440798424+0.0684755598j, -0.1222158850+0.1540282828j, 0.2357022604-0.0000000000j, 0.0432987594+0.1174797505j, 0.0689080463+0.1457840786j, -0.0490607472-0.2326054461j, 0.1322340652+0.0245250286j, -0.1821064106-0.1037189658j, -0.0996202683-0.1557586970j, -0.0276452373-0.1542956562j, 0.0625567512+0.0634443246j, 0.0173969675+0.0703224813j, 0.2239127491+0.0000000000j, 0.2357022604+0.0000000000j, -0.0212758743+0.1475600438j, 0.1671568529-0.1136141050j, -0.1133769665-0.1001649937j, -0.1622746242+0.0899625538j, -0.0849582621-0.1557621613j, -0.0455059410-0.1232426954j, -0.0262180151+0.1100197210j, -0.2037259499-0.0155188919j, -0.1178511302+0.2041241452j, 0.1014553080-0.1709531970j, -0.0422059496-0.0136494448j, -0.1361649038+0.2044684770j, -0.0253991824+0.0639525351j, 0.2239719866+0.0176561399j, 0.2845393893-0.0000000000j, -0.0139312087-0.0694807633j, -0.1087894033-0.0160525067j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, -0.0621901968+0.0002877250j)

0.9752588191 - 0.2210661343j: Bezárt szög: -12.7716599005 360 / bezárt szög: -28.1874089042

- (-0.0000000000+0.0000000000j, -0.0000000000-0.0000000000j, 0.0941297397+0.1665197429j, 0.0462000186-0.0688191155j, -0.2357022604+0.0000000000j, -0.0787047080-0.1636554210j, -0.0237740394-0.0916282234j, -0.1246649483+0.2159260244j, 0.1140650211-0.0085157599j, -0.1940819372-0.1358854363j, -0.0833827410-0.1126405104j, 0.1274609532-0.0723348400j, 0.0328703913+0.0977128913j, -0.1070386693+0.1996968714j, -0.0285720743-0.1244140462j, 0.1178511302+0.2041241452j, -0.1134442162-0.0770471255j, 0.0079275549+0.2098968701j, 0.1068124770-0.0754767653j, 0.2090940975+0.0000000000j, 0.0561845226-0.0801793452j, 0.1079088193-0.1641829157j, 0.1166091762+0.0642356102j, -0.1231145068+0.1472395254j, 0.1178511302+0.2041241452j, 0.0331949930+0.0493890095j, -0.1116331851+0.1660804335j, 0.0656831913+0.0756781421j, -0.1134630156-0.2075804538j, -0.0336705080-0.0058180704j, -0.0169611742-0.0322906531j, 0.1888922763-0.0411536419j, -0.2011307600-0.0208403121j, 0.1289421743+0.0741304489j, -0.1941450171+0.0000000000j, 0.2346340332+0.0114514477j)

0.9752588191 - 0.2210661343j: Bezárt szög: -12.7716599005 360 / bezárt szög: -28.1874089042

- $(-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, 0.0959789790-0.0027690852j, 0.2417594668+0.0000000000j, -0.0000000000+0.0000000000j, 0.0470776716-0.0027712007j, 0.2611776061+0.0000000000j, -0.1040258672+0.0427297533j, 0.1177634661-0.0619424963j, 0.0078655430-0.0490049752j, 0.0830157360-0.1443023554j, 0.1594539783-0.0027672408j, -0.1285330227+0.2226257258j, -0.0353769800+0.0613538039j, -0.1349491641+0.1534974758j, 0.0000000000+0.0000000000j, -0.0382303228-0.0661854532j, 0.0768886973-0.1908334792j, -0.1131580223+0.0000233526j, 0.1824620885-0.0762087886j, 0.0360796558-0.0260071789j, -0.1149225894+0.2178945314j, 0.0531806194-0.0908492575j, -0.1821380234-0.1109426537j, 0.0000000000+0.0000000000j, 0.0695406579+0.0228460158j, 0.2490700979+0.0000000000j, -0.0305148636-0.0586348592j, -0.1161988986+0.1616312386j, -0.0831450472-0.0353122799j, 0.2845393893-0.0000000000j, 0.0438065676+0.0534966743j, 0.2265611877-0.0047878054j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, 0.1146625012-0.0117391726j)$

0.9641197051 - 0.2654678779j: Bezárt szög: -15.3947560266 360 / bezárt szög: -23.3845862434

- $(-0.1178511302-0.2041241452j, -0.1178511302+0.2041241452j, -0.1290775436+0.2235688636j, -0.0031943019+0.0000979408j, -0.0000000000-0.0000000000j, 0.2644984845+0.0000000000j, -0.0021605704+0.0073471110j, -0.1366783762-0.1173086099j, -0.0307526420-0.0279848603j, -0.0544001590+0.1686279465j, -0.0211533564-0.0165078931j, -0.1425255156-0.2468614344j, 0.0133779803+0.0085861530j, 0.1126048915+0.1949077449j, -0.0307631571-0.0127498491j, -0.0000000000+0.0000000000j, 0.2197643412+0.0000002321j, -0.0043415199+0.0025211644j, 0.2284371218-0.0000000000j, 0.0043507033+0.0082027736j, 0.2483881224+0.0000000000j, 0.0018685855+0.0015793820j, -0.1189379001-0.2060064859j, 0.0012119428-0.0011245928j, -0.0000000000+0.0000000000j, 0.2594884509+0.0000000000j, 0.0238164842+0.0377701990j, 0.1120008773-0.1803728538j, 0.0075246714+0.0070424419j, 0.1071564314-0.0234742103j, 0.0169611742+0.0322906531j, 0.2187676352-0.0571377309j, -0.0833589756-0.0416806242j, -0.1289421743-0.0741304489j, 0.1941450171+0.0000000000j, 0.2871063377+0.0000000000j)$

0.9641197051 - 0.2654678779j: Bezárt szög: -15.3947560266 360 / bezárt szög: -23.3845862434

- $(-0.0000000000+0.0000000000j, -0.0000000000+0.0000000000j, 0.0372616532-0.0724120432j, 0.1945003483+0.0288279197j, 0.2357022604-0.0000000000j, 0.0432987594+0.1174797505j, 0.0689080463+0.1457840786j, 0.2259725989+0.0738148697j, -0.0873563304+0.1022555454j, -0.1821064106-0.1037189658j, -0.0996202683-0.1557586970j, 0.1474465766+0.0532063503j, -0.0862227724+0.0224535734j, 0.0522025715-0.0502274564j, -0.1119563745-0.1939141289j, -0.1178511302+0.2041241452j, 0.1384286836-0.0553545743j, -0.1819711276-0.0879550285j, -0.1133769665-0.1001649937j, -0.1622746242+0.0899625538j, 0.1773731197+0.0043050674j, 0.1294842756+0.0222120468j, 0.1083888808-0.0323043934j, 0.0884232203+0.1841912939j, 0.2357022604-0.0000000000j, 0.1014553080-0.1709531970j, -0.0422059496-0.0136494448j, -0.1089924435-0.2201565043j, -0.0426849289-0.0539726047j, 0.0217906653+0.0316197391j, 0.0048836371-0.0318818387j, -0.1973834609-0.0159840890j, 0.0721824532-0.0607086532j, 0.2331682648-0.0000000000j, 0.1711867286-0.0065032487j, 0.0453992104+0.1337668079j)$

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

- $(0.0000000000-0.0000000000j, -0.0000000000-0.0000000000j, 0.0987202559+0.1640114719j, 0.0557232997-0.0614543244j, -0.2357022604+0.0000000000j, -0.0746163042+0.1597408093j, 0.0881228693-0.0283722731j, 0.0027981496+0.2199499666j, 0.1319842449+0.1312958223j, 0.2459663375+0.0000000000j, -0.1322625663+0.1182601911j, -0.0101378270-0.1311228267j, -0.0322152035-0.0851386312j, -0.1069858893-0.1997882891j, 0.1236184609-0.0008486517j, -0.2357022604-0.0000000000j, 0.1234475710+0.0597231009j, -0.1057409525+0.1831487021j, 0.1065974707+0.0755401395j, -0.1710616494+0.1181175409j, -0.1152750494+0.0206253287j, 0.0809095223-0.1783708809j, 0.1181182988-0.0663428944j, -0.1774835552-0.0684944943j, 0.1178511302-0.2041241452j, 0.0159470277-0.0596436246j, 0.1991713517+0.0164228128j, 0.0705778025-0.0712089386j, -0.1111819174+0.2115314320j, 0.2239719866+0.0176561399j, 0.2845393893-0.0000000000j, -0.0139312087-0.0694807633j, -0.1087894033-0.0160525067j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, -0.0621901968+0.0002877250j)$

0.8432931574 - 0.5374538591j: Bezárt szög: -32.5104796307 360 / bezárt szög: -11.0733524725

- $(-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, -0.1274371803+0.1538428803j, 0.1453301128-0.0607666138j, -0.0000000000+0.0000000000j, -0.1302050404-0.2181844487j, 0.0675809338+0.0310575113j, -0.0676545770+0.0114644637j, -0.1592078084+0.0698845346j, -0.0877650842-0.1244403600j, 0.0189306629+0.0816819147j, -0.1209816842-0.0679370923j, -0.1381499959+0.1865873258j, -0.1876853076+0.0214822143j, 0.1281814035-0.0735288805j, 0.0000000000-0.0000000000j, -0.0634747561+0.1635275770j, 0.0913086683-0.0991872165j, -0.1143260640-0.0254909705j, -0.1886265143+0.0530337973j, -0.1210947372-0.2094507745j, -0.0007205829-0.0634985473j, -0.0280522055-0.1521236851j, 0.1743714487+0.0480539883j, 0.0000000000+0.0000000000j)$

0.0000000000j, -0.1383682081 + 0.1768982991j, 0.1098101530 - 0.0724741108j, 0.0766296519 - 0.1614931367j, 0.1062329915 - 0.0506654105j, 0.3647989260 - 0.0000000000j, -0.2845393893 + 0.0000000000j, 0.0159441502 - 0.0854648523j, 0.0089823811 - 0.0368928188j, -0.0033002181 + 0.0826655577j, -0.0502190022 - 0.1173537779j, -0.0097178923 - 0.0111637227j)

0.8432931574 - 0.5374538591j: Bezárt szög: -32.5104796307 360 / bezárt szög: -11.0733524725

- (0.0000000000 - 0.0000000000j, 0.0000000000 + 0.0000000000j, 0.0338062046 + 0.0744667343j, -0.1183684483 + 0.1570399715j, 0.2357022604 - 0.0000000000j, 0.0353826398 - 0.1119443354j, -0.1587715780 + 0.0200646985j, 0.0855332959 - 0.1881933204j, 0.1740050298 - 0.0968744615j, 0.2191092265 + 0.0166824626j, -0.1475211544 + 0.1557586970j, 0.1356843499 - 0.0444804833j, -0.0034934577 - 0.0747292400j, 0.0168800559 - 0.0706271432j, -0.0932600543 - 0.2010634408j, -0.1178511302 - 0.2041241452j, -0.1171540975 + 0.0922054695j, -0.0956605111 - 0.1797322977j, -0.1131744021 + 0.1002127900j, 0.1835782117 - 0.0147937380j, -0.1058259991 - 0.1562335698j, 0.1274997445 - 0.0276685140j, -0.0271054162 - 0.1126340014j, -0.1697265980 + 0.1108748352j, -0.1178511302 - 0.2041241452j, 0.0946973680 + 0.1755593102j, 0.0229153418 - 0.0365621981j, -0.1228400540 - 0.2127652147j, -0.0040412472 - 0.0765648631j, -0.0336705080 - 0.0058180704j, -0.0169611742 - 0.0322906531j, 0.1888922763 - 0.0411536419j, -0.2011307600 - 0.0208403121j, 0.1289421743 + 0.0741304489j, -0.1941450171 + 0.0000000000j, 0.2346340332 + 0.0114514477j)

0.7587329521 + 0.6514018018j: Bezárt szög: 40.6473752875 360 / bezárt szög: 8.8566604228

- (0.2357022604 + 0.0000000000j, 0.2357022604 - 0.0000000000j, 0.0920746381 + 0.1631905000j, -0.1117536586 + 0.1448678924j, 0.0000000000 - 0.0000000000j, -0.0805488136 + 0.0074927209j, -0.1201110604 + 0.2192965669j, -0.0321486497 + 0.1768262581j, -0.0160019894 + 0.0399727832j, -0.0287322301 + 0.1042548598j, -0.1547921108 - 0.0148851000j, 0.1307765615 - 0.2409369441j, 0.0731688403 - 0.0143151287j, -0.1411800398 + 0.0002497391j, -0.0789472670 + 0.1320828326j, 0.0000000000 + 0.0000000000j, 0.0764326752 - 0.1323858324j, 0.0381668632 - 0.1496591216j, 0.2265328538 + 0.0000161092j, 0.0129488387 + 0.0362110867j, -0.0174106728 - 0.0563295348j, -0.1152974254 + 0.2084731476j, 0.2077416656 + 0.0007843280j, 0.1123386214 - 0.0273091074j, 0.0000000000 - 0.0000000000j, -0.1631999962 + 0.0097334207j, -0.0937867702 - 0.1901928721j, -0.1322800015 - 0.0043167801j, 0.1677908615 - 0.0043977152j, 0.1190362741 - 0.0492758791j, 0.0048836371 - 0.0318818387j, 0.2272588198 + 0.0000000000j, 0.0455893312 + 0.0398683412j, 0.2331682648 - 0.0000000000j, 0.1711867286 - 0.0065032487j, 0.0070730941 - 0.1452182556j)

0.7587329521 + 0.6514018018j: Bezárt szög: 40.6473752875 360 / bezárt szög: 8.8566604228

- (0.0000000000 + 0.0000000000j, 0.0000000000 + 0.0000000000j, -0.0916668238 - 0.0019651607j, -0.0729689439 - 0.1780183803j, 0.2357022604 + 0.0000000000j, -0.0786813992 - 0.0055354150j, 0.0898635317 - 0.1658487771j, -0.0711528012 + 0.0644347787j, -0.1291272950 - 0.2236550355j, -0.0370028159 + 0.0870365032j, 0.2471414227 + 0.0000000000j, 0.0569661838 + 0.0145493206j, -0.1290209003 - 0.0977835214j, 0.0522079607 - 0.0910174956j, -0.0964167287 - 0.1812972966j, 0.2357022604 + 0.0000000000j, -0.1171534534 - 0.2029157336j, -0.0593343727 - 0.0590964766j, 0.2265513686 - 0.0000477963j, -0.0213035875 - 0.0751688158j, -0.1032569778 + 0.1692933800j, 0.0852941772 - 0.0010095793j, 0.1102092135 - 0.1898107007j, 0.0228422270 - 0.0760312360j, -0.1178511302 + 0.2041241452j, -0.1961526760 - 0.0046061132j, 0.0192906078 + 0.0502116429j, -0.1095152042 - 0.2044684770j, -0.0429285577 - 0.0987351439j, 0.2239719866 + 0.0176561399j, 0.2845393893 + 0.0000000000j, -0.0139312087 - 0.0694807633j, -0.1087894033 - 0.0160525067j, 0.0033002181 - 0.0826655577j, 0.0502190022 + 0.1173537779j, -0.0621901968 + 0.0002877250j)

0.3522252545 + 0.9359152579j: Bezárt szög: 69.3765178329 360 / bezárt szög: 5.1890756591

- (0.2357022604 + 0.0000000000j, 0.2357022604 + 0.0000000000j, -0.0678728892 + 0.1901264682j, 0.1237781559 + 0.0982915797j, -0.0000000000 - 0.0000000000j, -0.1342934442 + 0.2181844487j, -0.0654203634 - 0.0384046223j, 0.0093542764 - 0.1126984367j, -0.0102228430 + 0.1321952745j, 0.1421652432 - 0.0441875866j, 0.0022226935 - 0.0651740216j, 0.0231994257 - 0.1760567686j, 0.0917675297 + 0.2288138162j, 0.1126507070 - 0.1518639614j, 0.1013453084 + 0.0945106624j, 0.0000000000 - 0.0000000000j, -0.0634740424 - 0.1635283491j, 0.1315656159 + 0.0345024668j, -0.1141110578 + 0.0254909705j, 0.1842758109 - 0.0612365709j, -0.1177429989 + 0.2152561554j, -0.0557851387 - 0.0287172970j, -0.1201589271 - 0.1003557652j, 0.0452017952 + 0.1734252287j, -0.0000000000 - 0.0000000000j, -0.1211202428 - 0.1768982991j, -0.1336266372 + 0.0347039118j, 0.1106655793 - 0.1403006155j, 0.0069023653 - 0.1072953971j, 0.1626176047 + 0.0139635992j, -0.0048836371 + 0.0318818387j, -0.1675081020 - 0.0319681780j, 0.1899542376 - 0.0815489653j, -0.2331682648 - 0.0000000000j, -0.1711867286 + 0.0065032487j, 0.0978715148 + 0.1223153602j)

0.3522252545 + 0.9359152579j: Bezárt szög: 69.3765178329 360 / bezárt szög: 5.1890756591

- $(-0.0000000000+0.0000000000j, 0.0000000000-0.0000000000j, 0.0971454578-0.1647786173j, -0.0826991116-0.0056008320j, -0.2357022604+0.0000000000j, -0.0787047080-0.1636554210j, -0.0237740394-0.0916282234j, -0.1246649483-0.2159260244j, -0.0496576462+0.1030410859j, -0.1940819372-0.1358854363j, -0.0833827410-0.1126405104j, -0.0010866676+0.1465518435j, -0.1010570417-0.0203898518j, 0.2264618984-0.0071502289j, -0.0934596874+0.0869511653j, -0.2357022604-0.0000000000j, -0.0100026599+0.1367691359j, 0.1778122442-0.1118138990j, 0.1068124770-0.0754767653j, 0.2090940975+0.0000000000j, 0.0413450885+0.0887468965j, 0.0882321662+0.1755432367j, -0.0026749179-0.1331043140j, 0.1890704229+0.0330005278j, 0.1178511302-0.2041241452j, 0.0331949930+0.0493890095j, -0.1116331851+0.1660804335j, -0.0983807892+0.0190442412j, 0.2365014542+0.0055283730j, 0.2239719866+0.0176561399j, 0.2845393893-0.0000000000j, -0.0139312087-0.0694807633j, -0.1087894033-0.0160525067j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, -0.0621901968+0.0002877250j)$

0.1157420000 + 0.9932793109j: Bezárt szög: 83.3535756889 360 / bezárt szög: 4.3189508911

- $(0.0000000000-0.0000000000j, -0.0000000000-0.0000000000j, 0.0475869813-0.0665103991j, 0.1951848288+0.0239900975j, 0.2357022604-0.0000000000j, 0.0353826398-0.1119443354j, -0.1587715780+0.0200646985j, 0.1202135484+0.1681706673j, -0.0031067702+0.1991300069j, 0.2191092265+0.0166824626j, -0.1475211544+0.1557586970j, -0.0293209465+0.1397463356j, 0.0664641491+0.0343391968j, -0.0696049282+0.0206950144j, -0.1274960203+0.1812972966j, 0.2357022604+0.0000000000j, 0.1384293277+0.0553556898j, -0.1078224802+0.1727105816j, -0.1131744021+0.1002127900j, 0.1835782117-0.0147937380j, 0.1882152399-0.0135312187j, -0.0397882362+0.1242522747j, -0.0839911984+0.0797909798j, 0.1808837229+0.0915501279j, -0.1178511302+0.2041241452j, 0.0946973680+0.1755593102j, 0.0229153418-0.0365621981j, 0.2456801080+0.0000000000j, 0.0683277401+0.0347826088j, 0.2239719866+0.0176561399j, 0.2845393893-0.0000000000j, -0.0139312087-0.0694807633j, -0.1087894033-0.0160525067j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, -0.0621901968+0.0002877250j)$

0.1157420000 + 0.9932793109j: Bezárt szög: 83.3535756889 360 / bezárt szög: 4.3189508911

- $(0.2357022604+0.0000000000j, 0.2357022604-0.0000000000j, -0.0503875877-0.0817356914j, -0.1208797334-0.2093698399j, 0.0000000000+0.0000000000j, 0.0470776716-0.0027712007j, 0.2611776061-0.0000000000j, 0.0150078818-0.1114539203j, -0.0052379577+0.1329574014j, 0.0078655430-0.0490049752j, 0.0830157360-0.1443023554j, -0.0773304883+0.1394748163j, -0.1285330227-0.2226257258j, 0.0708224428-0.0000395385j, 0.2004072955+0.0401206664j, 0.0000000000-0.0000000000j, -0.0382031225+0.0662011574j, -0.2037109895+0.0288291745j, -0.1131580223+0.0000233526j, 0.1824620885-0.0762087886j, 0.0044830497+0.0442494880j, -0.1312409048-0.2084731476j, -0.1052680747-0.0006311386j, -0.0050101448+0.2132074820j, -0.0000000000+0.0000000000j, 0.0695406579+0.0228460158j, 0.2490700979-0.0000000000j, 0.0660367094+0.0028907826j, -0.0818773094-0.1814468174j, 0.1190362741-0.0492758791j, 0.0048836371-0.0318818387j, 0.2272588198-0.0000000000j, 0.0455893312+0.0398683412j, 0.2331682648-0.0000000000j, 0.1711867286-0.0065032487j, 0.0070730941-0.1452182556j)$

0.0605356677 - 0.9981660348j: Bezárt szög: -86.5294398418 360 / bezárt szög: -4.1604337282

- $(0.0000000000+0.0000000000j, 0.0000000000-0.0000000000j, 0.0972684895-0.1700082564j, -0.0715593748-0.0101658398j, -0.2357022604+0.0000000000j, 0.1533210121+0.0039146118j, -0.0643488299+0.1200004964j, -0.0644182356-0.1035277724j, -0.1617784162+0.1884653800j, -0.0518844003+0.1358854363j, 0.2156453073-0.0056196806j, -0.0189741678-0.0020061890j, 0.0247542244-0.1681813915j, -0.1194760091-0.2069385180j, 0.0896463508+0.0169329929j, 0.1178511302+0.2041241452j, 0.2268897243-0.0000000565j, 0.0978133975-0.0267481680j, -0.2134099476-0.0000633741j, -0.0380324481-0.1181175409j, -0.1316841059-0.0093391117j, 0.0870196560+0.1450671770j, -0.1150046587-0.1997005048j, -0.0249452429-0.0277815050j, 0.1178511302+0.2041241452j, -0.0491420207+0.0102546151j, -0.0875381666-0.1825032463j, 0.0312744598-0.0501604415j, -0.1253195368+0.2170598049j, -0.0336705080-0.0058180704j, -0.0169611742-0.0322906531j, 0.1888922763-0.0411536419j, -0.2011307600-0.0208403121j, 0.1289421743+0.0741304489j, -0.1941450171+0.0000000000j, 0.2346340332+0.0114514477j)$

0.0605356677 - 0.9981660348j: Bezárt szög: -86.5294398418 360 / bezárt szög: -4.1604337282

- $(-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, 0.0913854587+0.0046253595j, -0.1721770212+0.1692154535j, 0.0000000000-0.0000000000j, 0.0334711420-0.0047215203j, -0.1410665458-0.2192965669j, -0.0651844892+0.0178418284j, -0.1603819065+0.0680707586j, 0.0208666871-0.0552498846j, 0.0717763748+0.1591874554j, 0.1145918168-0.0044454068j, 0.1775147080-0.1664172157j, -0.0349967595+0.0610365667j, 0.2098626190-0.0190857208j, 0.0000000000-0.0000000000j, -0.0382028335-0.0662001013j, -0.1874138669+0.0829504453j, -0.1133748315-0.0000394619j, -0.1954109272+0.0399977020j, 0.0039978159-0.0172356734j, -0.1232691651-0.2135084569j, 0.0513694613-0.0886681383j, 0.2146569533+0.0000000000j, -0.0000000000-$

0.0000000000j, 0.0936593383-0.0325794365j, -0.1552833277+0.1901928721j, -0.0318866959-0.0580813725j, 0.2039028625-0.0185189477j, -0.0831450472-0.0353122799j, 0.2845393893+0.0000000000j, 0.0438065676+0.0534966743j, 0.2265611877-0.0047878054j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, 0.1146625012-0.0117391726j)

0.0000000000-1.0000000000j: Bezárt szög: -90.0000000000 360 / bezárt szög: -4.0000000000

- (-0.1178511302-0.2041241452j, -0.1178511302+0.2041241452j, 0.1985907960-0.0362835879j, 0.0232339271-0.1563408173j, 0.0000000000+0.0000000000j, -0.1342934442+0.2181844487j, -0.0654203634-0.0384046223j, 0.0929225709+0.0644502594j, -0.1093730445-0.0749508790j, 0.1421652432-0.0441875866j, 0.0022226935-0.0651740216j, 0.1408699213+0.1081196763j, -0.2440423424-0.0349338961j, -0.1878434020-0.0216263934j, 0.0311759804-0.1350229428j, -0.0000000000-0.0000000000j, -0.1098826833+0.1367343077j, -0.0359027952-0.1311903990j, -0.1141110578+0.0254909705j, 0.1842758109-0.0612365709j, -0.1275457995-0.2095965059j, 0.0527624781-0.0339526988j, -0.0268311785+0.1542385660j, 0.1275897561-0.1258585173j, -0.0000000000-0.0000000000j, -0.1211202428-0.1768982991j, -0.1336266372+0.0347039118j, 0.0661711075+0.1659895107j, 0.0894693570+0.0596253223j, 0.1071564314-0.0234742103j, 0.0169611742+0.0322906531j, 0.2187676352-0.0571377309j, -0.0833589756-0.0416806242j, -0.1289421743-0.0741304489j, 0.1941450171-0.0000000000j, 0.2871063377+0.0000000000j)

-0.5000000000-0.8660254038j: Bezárt szög: -120.0000000000 360 / bezárt szög: -3.0000000000

- (-0.0000000000+0.0000000000j, -0.0000000000-0.0000000000j, -0.0813414956+0.0039364834j, -0.0722844634-0.1828562025j, 0.2357022604-0.0000000000j, 0.0432987594+0.1174797505j, 0.0689080463+0.1457840786j, -0.1769118518+0.1587905764j, -0.0448777348-0.1267805740j, -0.1821064106-0.1037189658j, -0.0996202683-0.1557586970j, -0.1198013393+0.1010893059j, 0.0236660213-0.0858978980j, -0.0695995390-0.0200950248j, -0.1119563745+0.1939141289j, -0.1178511302-0.2041241452j, -0.1171528094-0.0922054695j, 0.0148142747+0.2015691335j, -0.1133769665-0.1001649937j, -0.1622746242+0.0899625538j, -0.0924148576+0.1514570939j, -0.0839783346+0.1010306487j, -0.0821708657-0.0777153276j, 0.1153027296-0.1686724020j, -0.1178511302-0.2041241452j, 0.1014553080-0.1709531970j, -0.0422059496-0.0136494448j, 0.2451573473+0.0156880273j, 0.0680841113-0.0099799304j, -0.0336705080-0.0058180704j, -0.0169611742-0.0322906531j, 0.1888922763-0.0411536419j, -0.2011307600-0.0208403121j, 0.1289421743+0.0741304489j, -0.1941450171+0.0000000000j, 0.2346340332+0.0114514477j)

-0.5000000000+0.8660254038j: Bezárt szög: 120.0000000000 360 / bezárt szög: 3.0000000000

- (-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, 0.2581550871+0.0000000000j, 0.0016819702+0.0027173762j, -0.0000000000+0.0000000000j, 0.2644984845-0.0000000000j, -0.0021605704+0.0073471110j, 0.1699314244-0.0597126410j, 0.0396119209-0.0126401391j, -0.0544001590+0.1686279465j, -0.0211533564-0.0165078931j, 0.2850510312+0.0000000000j, -0.0141248168+0.0072925943j, 0.1124926127-0.1949725691j, 0.0043398853+0.0330166001j, 0.0000000000+0.0000000000j, -0.1098819696-0.1903216184j, 0.0043541524+0.0024992843j, 0.2284371218+0.0000000000j, 0.0043507033+0.0082027736j, -0.1241940612+0.2151104240j, -0.0023020777+0.0008285515j, -0.1189379001+0.2060064859j, -0.0015798973-0.0004872769j, 0.0000000000-0.0000000000j, 0.2594884509+0.0000000000j, 0.0238164842+0.0377701990j, 0.1002070349+0.1871820319j, -0.0098612692+0.0029953356j, 0.3647989260-0.0000000000j, -0.2845393893+0.0000000000j, 0.0159441502-0.0854648523j, 0.0089823811-0.0368928188j, -0.0033002181+0.0826655577j, -0.0502190022-0.1173537779j, -0.0097178923-0.0111637227j)

-0.5594501977-0.8288639673j: Bezárt szög: -124.0177837773 360 / bezárt szög: -2.9028094926

- (-0.0000000000-0.0000000000j, 0.0000000000-0.0000000000j, 0.0926779733-0.1674999854j, -0.0810826559-0.0175306309j, -0.2357022604+0.0000000000j, -0.0746163042+0.1597408093j, 0.0881228693-0.0283722731j, -0.1918813335-0.1075517147j, -0.1796976400+0.0486537979j, 0.2459663375+0.0000000000j, -0.1322625663+0.1182601911j, 0.1186246124+0.0567817977j, 0.0898398192+0.0146701309j, -0.1195287891+0.1925466425j, -0.0625441843-0.1066324016j, 0.1178511302-0.2041241452j, -0.0100020629-0.1367702829j, 0.2114819049+0.0000000000j, 0.1065974707+0.0755401395j, -0.1710616494+0.1181175409j, 0.0397754661-0.1101437855j, 0.1140189530+0.1592551422j, -0.1165137813-0.0691220002j, 0.0294238055+0.1879525147j, -0.2357022604+0.0000000000j, 0.0159470277-0.0596436246j, 0.1991713517+0.0164228128j, 0.0263798485+0.0967266392j, -0.1276006351-0.2020520809j, 0.0217906653+0.0316197391j, 0.0048836371-0.0318818387j, -0.1973834609-0.0159840890j, 0.0721824532-0.0607086532j, 0.2331682648+0.0000000000j, 0.1711867286-0.0065032487j, 0.0453992104+0.1337668079j)

-0.5594501977-0.8288639673j: Bezárt szög: -124.0177837773 360 / bezárt szög: -2.9028094926

- (0.2357022604−0.0000000000j, 0.2357022604−0.0000000000j, 0.1969504327+0.0334423954j, −0.1252904876−0.0954762627j, 0.0000000000+0.0000000000j, −0.1302050404−0.2181844487j, 0.0675809338+0.0310575113j, 0.0238987718−0.0643228142j, 0.0190821219−0.1728202739j, −0.0877650842−0.1244403600j, 0.0189306629+0.0816819147j, 0.1193260899−0.0708046658j, −0.0925143662−0.2129350689j, 0.1124467972+0.1517991371j, −0.1277685802−0.0742439115j, −0.0000000000+0.0000000000j, 0.1733564140−0.0267930372j, −0.1315529834−0.0294820180j, −0.1143260640−0.0254909705j, −0.1886265143+0.0530337973j, 0.2419370601−0.0001457314j, 0.0553516466+0.0311252305j, −0.1177168730+0.1003557652j, −0.0455697497−0.1750370984j, 0.0000000000+0.0000000000j, −0.1383682081+0.1768982991j, 0.1098101530−0.0724741108j, 0.1015423329+0.1471097936j, −0.0092389632+0.1173331746j, 0.1626176047+0.0139635992j, −0.0048836371+0.0318818387j, −0.1675081020−0.0319681780j, 0.1899542376−0.0815489653j, −0.2331682648+0.0000000000j, −0.1711867286+0.0065032487j, 0.0978715148+0.1223153602j)

−0.6959207380 − 0.7181186019j: Bezárt szög: −134.1006336078 360 / bezárt szög: −2.6845510742

- (0.0000000000−0.0000000000j, 0.0000000000+0.0000000000j, 0.0441315327+0.0803683784j, −0.1176839677+0.1522021492j, 0.2357022604−0.0000000000j, −0.0786813992−0.0055354150j, 0.0898635317−0.1658487771j, −0.0202257546−0.0938375228j, 0.2582545899+0.0000000000j, −0.0370028159+0.0870365032j, 0.2471414227+0.0000000000j, −0.0410831732+0.0420595020j, 0.1491934638−0.0628436165j, −0.1049274438+0.0002953276j, −0.1087997001+0.1741479847j, −0.1178511302+0.2041241452j, −0.1171534534+0.2029157336j, −0.0215118636+0.0809333124j, 0.2265513686−0.0000477963j, −0.0213035875−0.0751688158j, −0.0949838789−0.1740698559j, −0.0417727673+0.0743717139j, −0.2194854955−0.0005386283j, −0.0772660954+0.0182336692j, 0.2357022604+0.0000000000j, −0.1961526760−0.0046061132j, 0.0192906078+0.0502116429j, 0.2318324975+0.0073912896j, 0.1069714218+0.0121903504j, 0.0217906653+0.0316197391j, 0.0048836371−0.0318818387j, −0.1973834609−0.0159840890j, 0.0721824532−0.0607086532j, 0.2331682648−0.0000000000j, 0.1711867286−0.0065032487j, 0.0453992104+0.1337668079j)

−0.6959207380 − 0.7181186019j: Bezárt szög: −134.1006336078 360 / bezárt szög: −2.6845510742

- (−0.1178511302−0.2041241452j, −0.1178511302+0.2041241452j, 0.0952897995−0.1613342257j, 0.1813361043+0.0243475611j, −0.0000000000+0.0000000000j, −0.0805488136+0.0074927209j, −0.1201110604+0.2192965669j, −0.1370617067−0.1162546764j, −0.0266164510−0.0338445209j, −0.0287322301+0.1042548598j, −0.1547921108−0.0148851000j, 0.1432692335+0.2337242965j, −0.0241871550+0.0705236388j, 0.0708063003+0.1221406314j, 0.1538607219+0.0023289225j, 0.0000000000−0.0000000000j, −0.1528658315+0.0000002778j, −0.1486920328+0.0417760877j, 0.2265328538+0.0000161092j, 0.0129488387+0.0362110867j, 0.0574881445+0.0130866825j, −0.1228943291−0.2040870732j, −0.1031915849−0.1803017238j, −0.0798196915−0.0836335463j, 0.0000000000+0.0000000000j, −0.1631999962+0.0097334207j, −0.0937867702−0.1901928721j, 0.0698784420−0.1123994517j, −0.0800868976+0.1475100062j, 0.1744974474−0.0118380695j, −0.0169611742−0.0322906531j, −0.1590169174+0.0251695529j, 0.3189025444+0.0000000000j, 0.1289421743+0.0741304489j, −0.1941450171+0.0000000000j, −0.1821617288−0.0229028954j)

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

- (−0.1178511302−0.2041241452j, −0.1178511302+0.2041241452j, −0.0695132524−0.1872852757j, −0.0200396252+0.1562428765j, −0.0000000000−0.0000000000j, −0.1302050404−0.2181844487j, 0.0675809338+0.0310575113j, 0.0437558053+0.0528583506j, 0.1401256865+0.1029357393j, −0.0877650842−0.1244403600j, 0.0189306629+0.0816819147j, 0.0016555943+0.1387417581j, 0.2306643621+0.0263477431j, 0.0752385105−0.1732813515j, −0.0004128233+0.1477727920j, 0.0000000000+0.0000000000j, −0.1098816578−0.1367345398j, 0.0402443151+0.1286692346j, −0.1143260640−0.0254909705j, −0.1886265143+0.0530337973j, −0.1208423229+0.2095965059j, −0.0546310636+0.0323733168j, 0.1457690786+0.0517679199j, −0.1288016990+0.1269831101j, 0.0000000000+0.0000000000j, −0.1383682081+0.1768982991j, 0.1098101530−0.0724741108j, −0.1781719849+0.0143833431j, −0.0969940283−0.0666677642j, 0.1071564314−0.0234742103j, 0.0169611742+0.0322906531j, 0.2187676352−0.0571377309j, −0.0833589756−0.0416806242j, −0.1289421743−0.0741304489j, 0.1941450171−0.0000000000j, 0.2871063377+0.0000000000j)

−0.8950800811 + 0.4459054254j: Bezárt szög: 153.5187178194 360 / bezárt szög: 2.3449909243

- (0.0000000000−0.0000000000j, 0.0000000000−0.0000000000j, −0.0813931859−0.0079563352j, −0.0768163806−0.1810300689j, 0.2357022604−0.0000000000j, 0.0353826398−0.1119443354j, −0.1587715780+0.0200646985j, −0.2057468443+0.0200226531j, −0.1708982595−0.1022555454j, 0.2191092265+0.0166824626j, −0.1475211544+0.1557586970j, −0.1063634034−0.0952658523j, −0.0629706914+0.0403900431j, 0.0527248723+0.0499321288j, 0.2207560747+0.0197661442j, −0.1178511302+0.2041241452j, −0.0212752302−0.1475611593j, 0.2034829912+0.0070217161j, −0.1131744021+0.1002127900j, 0.1835782117−0.0147937380j, −0.0823892408+0.1697647885j, −0.0877115083−0.0965837607j, 0.1110966147+0.0328430217j, −0.0111571250−0.2024249631j, 0.2357022604+0.0000000000j)

0.0000000000j, 0.0946973680 + 0.1755593102j, 0.0229153418 - 0.0365621981j, -0.1228400540 + 0.2127652147j, -0.0642864929 + 0.0417822543j, 0.0217906653 + 0.0316197391j, 0.0048836371 - 0.0318818387j, -0.1973834609 - 0.0159840890j, 0.0721824532 - 0.0607086532j, 0.2331682648 + 0.0000000000j, 0.1711867286 - 0.0065032487j, 0.0453992104 + 0.1337668079j)

-0.8950800811 + 0.4459054254j: Bezárt szög: 153.5187178194 360 / bezárt szög: 2.3449909243

- (-0.1178511302-0.2041241452j, -0.1178511302+0.2041241452j, -0.0455913913+0.0845047767j, -0.1208797334+0.2093698399j, 0.0000000000 - 0.0000000000j, 0.0470776716 - 0.0027712007j, 0.2611776061 - 0.0000000000j, 0.0890179855 + 0.0687241670j, -0.1125255084 - 0.0710149051j, 0.0078655430 - 0.0490049752j, 0.0830157360 - 0.1443023554j, -0.0821234900 - 0.1367075755j, 0.2570660454 + 0.0000000000j, -0.0354454628 - 0.0613142654j, -0.0654581314 - 0.1936181423j, -0.0000000000 - 0.0000000000j, 0.0764334453 - 0.0000157041j, 0.1268222922 + 0.1620043047j, -0.1131580223 + 0.0000233526j, 0.1824620885 - 0.0762087886j, -0.0405627056 - 0.0182423090j, 0.2461634942 - 0.0094213838j, 0.0520874552 + 0.0914803962j, 0.1871481681 - 0.1022648284j, 0.0000000000 + 0.0000000000j, 0.0695406579 + 0.0228460158j, 0.2490700979 + 0.0000000000j, -0.0355218459 + 0.0557440767j, 0.1980762080 + 0.0198155788j, 0.1744974474 - 0.0118380695j, -0.0169611742 - 0.0322906531j, -0.1590169174 + 0.0251695529j, 0.3189025444 - 0.0000000000j, 0.1289421743 + 0.0741304489j, -0.1941450171 - 0.0000000000j, -0.1821617288 - 0.0229028954j)

-0.9399074638 + 0.3414292891j: Bezárt szög: 160.0360219710 360 / bezárt szög: 2.2494935551

- (0.2357022604 - 0.0000000000j, 0.2357022604 - 0.0000000000j, -0.1290775436 - 0.2235688636j, 0.0015123317 - 0.0028153170j, 0.0000000000 + 0.0000000000j, 0.2644984845 + 0.0000000000j, -0.0021605704 + 0.0073471110j, -0.0332530482 + 0.1770212509j, -0.0088592789 + 0.0406249994j, -0.0544001590 + 0.1686279465j, -0.0211533564 - 0.0165078931j, -0.1425255156 + 0.2468614344j, 0.0007468364 - 0.0158787473j, -0.2250975042 + 0.0000648242j, 0.0264232718 - 0.0202667510j, 0.0000000000 - 0.0000000000j, -0.1098823716 + 0.1903213863j, -0.0000126325 - 0.0050204488j, 0.2284371218 + 0.0000000000j, 0.0043507033 + 0.0082027736j, -0.1241940612 - 0.2151104240j, 0.0004334922 - 0.0024079335j, 0.2378758001 + 0.0000000000j, 0.0003679545 + 0.0016118697j, 0.0000000000 - 0.0000000000j, 0.2594884509 - 0.0000000000j, 0.0238164842 + 0.0377701990j, -0.2122079122 - 0.0068091781j, 0.0023365979 - 0.0100377775j, 0.1626176047 + 0.0139635992j, -0.0048836371 + 0.0318818387j, -0.1675081020 - 0.0319681780j, 0.1899542376 - 0.0815489653j, -0.2331682648 + 0.0000000000j, -0.1711867286 + 0.0065032487j, 0.0978715148 + 0.1223153602j)

-0.9399074638 + 0.3414292891j: Bezárt szög: 160.0360219710 360 / bezárt szög: 2.2494935551

- (-0.0000000000 - 0.0000000000j, -0.0000000000 + 0.0000000000j, -0.1912751974 - 0.0017411257j, 0.0364990930 + 0.0744199475j, -0.2357022604 + 0.0000000000j, -0.0787047080 - 0.1636554210j, -0.0237740394 - 0.0916282234j, 0.2493298966 + 0.0000000000j, -0.0644073750 - 0.0945253260j, -0.1940819372 - 0.1358854363j, -0.0833827410 - 0.1126405104j, -0.1263742857 - 0.0742170035j, 0.0681866505 - 0.0773230395j, -0.1194232291 - 0.1925466425j, 0.1220317617 + 0.0374628809j, 0.1178511302 - 0.2041241452j, 0.1234468761 - 0.0597220104j, -0.1857397992 - 0.0980829711j, 0.1068124770 - 0.0754767653j, 0.2090940975 + 0.0000000000j, -0.0975296111 - 0.0085675513j, -0.1961409855 - 0.0113603210j, -0.1139342583 + 0.0688687038j, -0.0659559160 - 0.1802400532j, -0.2357022604 - 0.0000000000j, 0.0331949930 + 0.0493890095j, -0.1116331851 + 0.1660804335j, 0.0326975979 - 0.0947223833j, -0.1230384385 + 0.2020520809j, 0.0217906653 + 0.0316197391j, 0.0048836371 - 0.0318818387j, -0.1973834609 - 0.0159840890j, 0.0721824532 - 0.0607086532j, 0.2331682648 + 0.0000000000j, 0.1711867286 - 0.0065032487j, 0.0453992104 + 0.1337668079j)

-0.9795490753 + 0.2012053901j: Bezárt szög: 168.3925441850 360 / bezárt szög: 2.1378618735

- (0.0000000000 + 0.0000000000j, -0.0000000000 - 0.0000000000j, 0.0985972242 + 0.1692411111j, 0.0445835630 - 0.0568893166j, -0.2357022604 + 0.0000000000j, 0.1533210121 + 0.0039146118j, -0.0643488299 + 0.1200004964j, -0.0574485631 + 0.1075517147j, 0.2441050149 + 0.0458715282j, -0.0518844003 + 0.1358854363j, 0.2156453073 - 0.0056196806j, 0.0077496732 + 0.0174352058j, -0.1580264697 + 0.0626529086j, 0.2389520182 + 0.0000000000j, -0.0594875774 + 0.0691695207j, 0.1178511302 - 0.2041241452j, -0.1134448132 + 0.1964922934j, -0.0257421058 + 0.0980829711j, -0.2134099476 - 0.0000633741j, -0.0380324481 - 0.1181175409j, 0.0577541450 + 0.1187113368j, 0.0821220325 - 0.1478948212j, 0.2304480396 + 0.0002532964j, 0.0365321105 - 0.0077124615j, -0.2357022604 - 0.0000000000j, -0.0491420207 + 0.0102546151j, -0.0875381666 - 0.1825032463j, -0.0590774465 - 0.0020042559j, 0.2506390736 + 0.0000000000j, 0.0217906653 + 0.0316197391j, 0.0048836371 - 0.0318818387j, -0.1973834609 - 0.0159840890j, 0.0721824532 - 0.0607086532j, 0.2331682648 - 0.0000000000j, 0.1711867286 - 0.0065032487j, 0.0453992104 + 0.1337668079j)

-0.9795490753 + 0.2012053901j: Bezárt szög: 168.3925441850 360 / bezárt szög: 2.1378618735

- $(-0.1178511302-0.2041241452j, -0.1178511302+0.2041241452j, -0.0496984082+0.0768294490j, -0.0604563708-0.2337174010j, 0.0000000000+0.0000000000j, 0.0334711420-0.0047215203j, -0.1410665458-0.2192965669j, 0.0480437212+0.0475305094j, 0.1391419594+0.1048594261j, 0.0208666871-0.0552498846j, 0.0717763748+0.1591874554j, -0.0611457436-0.0970167210j, -0.2328788904-0.0705236388j, -0.0353608376-0.0608263661j, -0.0884025905+0.1912892198j, 0.0000000000+0.0000000000j, 0.0764323863+0.0000154263j, 0.0218697405-0.2037803924j, -0.1133748315-0.0000394619j, -0.1954109272+0.0399977020j, -0.0169254390+0.0051556266j, -0.1232691651+0.2135084569j, 0.0511041296+0.0888213276j, -0.1073284767+0.1858983747j, -0.0000000000-0.0000000000j, 0.0936593383-0.0325794365j, -0.1552833277+0.1901928721j, -0.0343565961+0.0566553750j, -0.1179893103-0.1673255850j, 0.1744974474-0.0118380695j, -0.0169611742-0.0322906531j, -0.1590169174+0.0251695529j, 0.3189025444-0.0000000000j, 0.1289421743+0.0741304489j, -0.1941450171+0.0000000000j, -0.1821617288-0.0229028954j)$

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

- $(0.2357022604-0.0000000000j, 0.2357022604-0.0000000000j, -0.0416870505-0.0814548085j, 0.2326333920+0.0645019475j, -0.0000000000+0.0000000000j, 0.0334711420-0.0047215203j, -0.1410665458-0.2192965669j, 0.0171407680-0.0653723378j, 0.0212399471-0.1729301846j, 0.0208666871-0.0552498846j, 0.0717763748+0.1591874554j, -0.0534460732+0.1014621278j, 0.0553641824+0.2369408545j, 0.0703575970-0.0002102006j, -0.1214600286-0.1722034990j, -0.0000000000-0.0000000000j, -0.0382295527+0.0661846750j, 0.1655441263+0.1208299471j, -0.1133748315-0.0000394619j, -0.1954109272+0.0399977020j, 0.0129276230+0.0120800468j, 0.2465383302+0.0000000000j, -0.1024735909-0.0001531893j, -0.1073284767-0.1858983747j, -0.0000000000-0.0000000000j, 0.0936593383-0.0325794365j, -0.1552833277+0.1901928721j, 0.0662432921+0.0014259975j, -0.0859135521+0.1858445326j, 0.1190362741-0.0492758791j, 0.0048836371-0.0318818387j, 0.2272588198+0.0000000000j, 0.0455893312+0.0398683412j, 0.2331682648+0.0000000000j, 0.1711867286-0.0065032487j, 0.0070730941-0.1452182556j)$

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

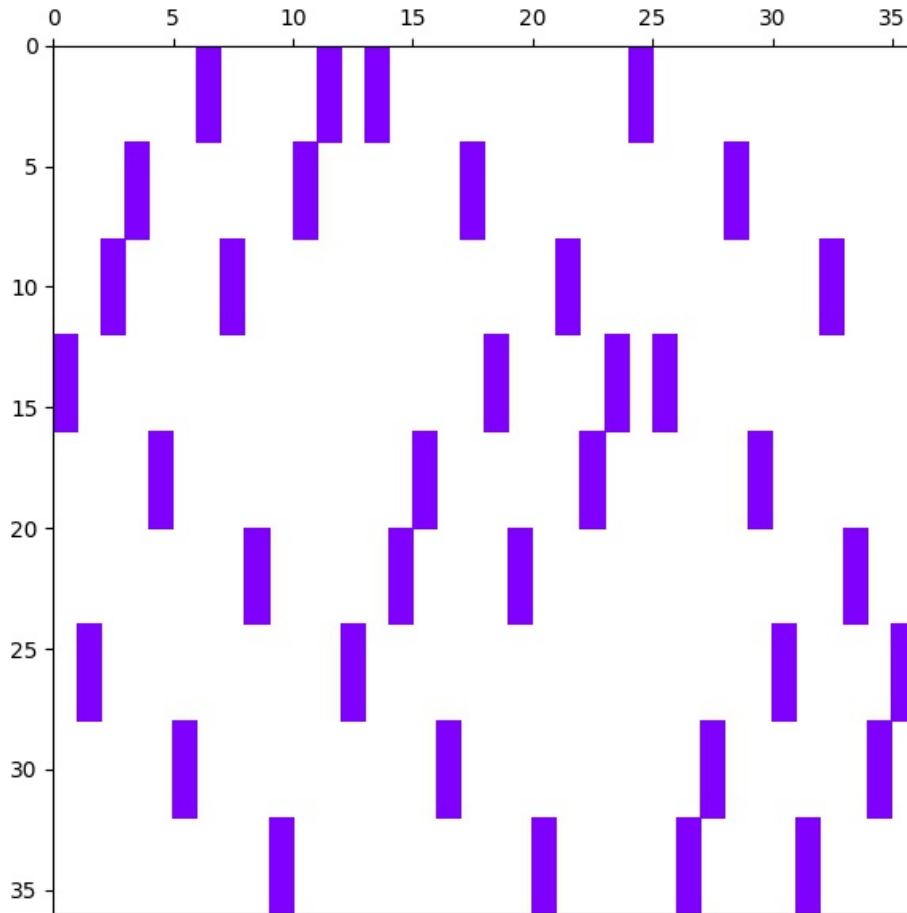
- $(-0.1178511302+0.2041241452j, -0.1178511302-0.2041241452j, -0.1873644377-0.0018562743j, -0.0695824457-0.1692154535j, 0.0000000000+0.0000000000j, -0.0805488136+0.0074927209j, -0.1201110604+0.2192965669j, 0.1692103565-0.0605715817j, 0.0426184404-0.0061282623j, -0.0287322301+0.1042548598j, -0.1547921108-0.0148851000j, -0.2740457950+0.0072126475j, -0.0489816853-0.0562085101j, 0.0703737395-0.1223903705j, -0.0749134549-0.1344117550j, -0.0000000000+0.0000000000j, 0.0764331563+0.1323855546j, 0.1105251696+0.1078830339j, 0.2265328538+0.0000161092j, 0.0129488387+0.0362110867j, -0.0400774717+0.0432428523j, 0.2381917545-0.0043860744j, -0.1045500807+0.1795173959j, -0.0325189300+0.1109426537j, 0.0000000000-0.0000000000j, -0.1631999962+0.0097334207j, -0.0937867702-0.1901928721j, 0.0624015595+0.1167162318j, -0.0877039639-0.1431122910j, -0.0831450472-0.0353122799j, 0.2845393893-0.0000000000j, 0.0438065676+0.0534966743j, 0.2265611877-0.0047878054j, 0.0033002181-0.0826655577j, 0.0502190022+0.1173537779j, 0.1146625012-0.0117391726j)$

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

- $(-0.0000000000-0.0000000000j, -0.0000000000+0.0000000000j, 0.0475352910-0.0784032177j, 0.1906529116+0.0258162311j, 0.2357022604-0.0000000000j, -0.0786813992-0.0055354150j, 0.0898635317-0.1658487771j, 0.0913785559+0.0294027441j, -0.1291272950+0.2236550355j, -0.0370028159+0.0870365032j, 0.2471414227-0.0000000000j, -0.0158830106-0.0566088226j, -0.0201725635+0.1606271380j, 0.0527194831+0.0907221680j, 0.2052164289+0.0071493119j, -0.1178511302-0.2041241452j, 0.2343069069+0.0000000000j, 0.0808462364-0.0218368358j, 0.2265513686-0.0000477963j, -0.0213035875-0.0751688158j, 0.1982408567+0.0047764759j, -0.0435214099-0.0733621346j, 0.1092762820+0.1903493290j, 0.0544238684+0.0577975668j, -0.1178511302-0.2041241452j, -0.1961526760-0.0046061132j, 0.0192906078+0.0502116429j, -0.1223172933+0.1970771874j, -0.0640428640+0.0865447935j, -0.0336705080-0.0058180704j, -0.0169611742-0.0322906531j, 0.1888922763-0.0411536419j, -0.2011307600-0.0208403121j, 0.1289421743+0.0741304489j, -0.1941450171-0.0000000000j, 0.2346340332+0.0114514477j)$

6. Szimulációs mátrix

6.1. 3. szimuláció mátrixa



26. ábra. 3. szimuláció mátrixa

6.2. Érme sajátértékek, sajátvektorok

$1.0000000000 - 0.0000000000j$: Bezárt szög: -0.0000000000 360 / bezárt szög: $-183491255922401792.0000000000$

- $(0.8660254038 + 0.0000000000j, -0.5000000000 + 0.0000000000j, 0.0000000000 - 0.0000000000j, -0.0206448404 + 0.0033271253j)$

$1.0000000000 + 0.0000000000j$: Bezárt szög: 0.0000000000 360 / bezárt szög: $17930741232864150.0000000000$

- $(0.2886751346 - 0.0000000000j, 0.5000000000 + 0.0000000000j, -0.7071067812 + 0.0000000000j, -0.4150104976 + 0.0016635627j)$

$0.0000000000 - 1.0000000000j$: Bezárt szög: -90.0000000000 360 / bezárt szög: -4.0000000000

- $(0.2886751346 - 0.0000000000j, 0.5000000000 + 0.0000000000j, -0.0000000000 - 0.0000000000j, 0.8093761547 + 0.0000000000j)$

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

- $(0.2886751346 - 0.0000000000j, 0.5000000000 + 0.0000000000j, 0.7071067812 + 0.0000000000j, -0.4150104976 + 0.0016635627j)$