上下接上导线，

在平衡状态（**零偏压**），计算能隙方程，获得有效的吸引势的大小

~~同时验证流是否自动满足守恒~~

1. , int=integral(@(EF) Gless21(EF),-4,0,"ArrayValued",true,'RelTol',1e-4,'AbsTol',1e-13)

|  |  |
| --- | --- |
|  |  |
| -1.99685109222113e-17 - 1.07039557962621i  -2.64781882987105e-17 - 1.07039557962621i  -5.43403351704944e-18 - 1.07039557962621i  5.38616528355725e-17 - 1.07039557962621i  2.67438769564724e-17 - 1.07039557962621i  -1.26802625524235e-17 - 1.07039557962621i  1.61903695877319e-17 - 1.07039557962621i  3.76488707877492e-17 - 1.07039557962621i  2.79513946688966e-17 - 1.07039557962621i  -1.12498053733204e-17 - 1.07039557962621i  -1.61883191222278e-17 - 1.07039557962621i  -1.82334014768805e-17 - 1.07039557962621i  4.44646252555052e-17 - 1.07039557962621i  5.32016228097700e-17 - 1.07039557962621i  2.33803775633334e-17 - 1.07039557962621i  -5.94444796091927e-18 - 1.07039557962621i  2.30287190723870e-17 - 1.07039557962621i  -1.85911555831689e-17 - 1.07039557962621i  -1.93075372869151e-17 - 1.07039557962621i  -2.42723063892099e-17 - 1.07039557962621i  -1.50315101546128e-17 - 1.07039557962621i  5.30639666516556e-18 - 1.07039557962621i  5.97620041828716e-18 - 1.07039557962621i  3.57094455058278e-18 - 1.07039557962621i  -6.31018201125527e-18 - 1.07039557962621i  2.90550429458102e-17 - 1.07039557962621i  -1.23781139833047e-17 - 1.07039557962621i  -2.13855327541156e-17 - 1.07039557962621i  -2.36493369163482e-17 - 1.07039557962621i  8.27130503004664e-18 - 1.07039557962621i | 1.76098970140751 + 3.28517258065817e-17i  1.76098970140751 + 4.35612943415186e-17i  1.76098970140751 + 8.93994448666252e-18i  1.76098970140751 - 8.86119279167348e-17i  1.76098970140751 - 4.39983990895249e-17i  1.76098970140751 + 2.08612705349164e-17i  1.76098970140751 - 2.66360162996314e-17i  1.76098970140751 - 6.19390391634468e-17i  1.76098970140751 - 4.59849789076036e-17i  1.76098970140751 + 1.85079159353162e-17i  1.76098970140751 + 2.66326429218778e-17i  1.76098970140751 + 2.99971644442212e-17i  1.76098970140751 - 7.31521585498627e-17i  1.76098970140751 - 8.75260619993292e-17i  1.76098970140751 - 3.84648487790159e-17i  1.76098970140751 + 9.77966635791528e-18i  1.76098970140751 - 3.78863084778821e-17i  1.76098970140751 + 3.05857331087426e-17i  1.76098970140751 + 3.17643074849693e-17i  1.76098970140751 + 3.99322291631028e-17i  1.76098970140751 + 2.47294879413825e-17i  1.76098970140751 - 8.72995933167328e-18i  1.76098970140751 - 9.83190475602111e-18i  1.76098970140751 - 5.87483421789678e-18i  1.76098970140751 + 1.03813634392136e-17i  1.76098970140751 - 4.78006751666444e-17i  1.76098970140751 + 2.03641827959153e-17i  1.76098970140751 + 3.51829768880973e-17i  1.76098970140751 + 3.89073343981377e-17i  1.76098970140751 - 1.36077570314693e-17i |
|  | Mean value: s1.761 |
|  | Standard value: 1.7480 |

1. , int=integral(@(EF) Gless21(EF),-4,0,"ArrayValued",true,'RelTol',1e-3,'AbsTol',1e-13)

|  |  |
| --- | --- |
|  |  |
| 9.09072228656611e-17 - 1.07810252661290i  3.04130706310212e-17 - 1.07810252661290i  5.88738167885893e-17 - 1.07810252661290i  -1.49508782307669e-16 - 1.07810252661290i  1.10241702658893e-17 - 1.07810252661290i  6.77299490405585e-17 - 1.07810252661290i  -2.53656780807627e-17 - 1.07810252661290i  -9.44605904090130e-17 - 1.07810252661290i  7.47078274651083e-17 - 1.07810252661290i  9.46355475647934e-18 - 1.07810252661290i  -2.28593999709840e-17 - 1.07810252661290i  1.01750879217456e-16 - 1.07810252661290i  -7.30523695155897e-17 - 1.07810252661290i  -2.29407682923055e-16 - 1.07810252661290i  4.63074910469606e-18 - 1.07810252661290i  4.02117540750290e-17 - 1.07810252661290i  6.61280222963362e-17 - 1.07810252661290i  8.08310567958953e-17 - 1.07810252661290i  -7.33227679923407e-17 - 1.07810252661290i  9.28710061029772e-17 - 1.07810252661290i  -3.18590017326470e-18 - 1.07810252661290i  5.81542799383773e-17 - 1.07810252661290i  1.22126290801078e-17 - 1.07810252661290i  6.06344685376628e-17 - 1.07810252661290i  -4.19108995797898e-17 - 1.07810252661290i  -8.60936064810495e-17 - 1.07810252661290i  -1.64444165604356e-16 - 1.07810252661290i  -3.05284662397474e-17 - 1.07810252661290i  -3.04820917049757e-17 - 1.07810252661290i  -1.68610184739749e-19 - 1.07810252661290i | 1.74840105242669 - 1.47427800425311e-16i  1.74840105242669 - 4.93220666738103e-17i  1.74840105242670 - 9.54779723566178e-17i  1.74840105242669 + 2.42464242389833e-16i  1.74840105242670 - 1.78783282843864e-17i  1.74840105242669 - 1.09840308560781e-16i  1.74840105242669 + 4.11365126758914e-17i  1.74840105242670 + 1.53190435609901e-16i  1.74840105242670 - 1.21156607038921e-16i  1.74840105242670 - 1.53474170475320e-17i  1.74840105242669 + 3.70719833972355e-17i  1.74840105242669 - 1.65013382231891e-16i  1.74840105242670 + 1.18471886105858e-16i  1.74840105242670 + 3.72039415877796e-16i  1.74840105242669 - 7.50986701943016e-18i  1.74840105242669 - 6.52129750271404e-17i  1.74840105242669 - 1.07242401277966e-16i  1.74840105242670 - 1.31086887640186e-16i  1.74840105242669 + 1.18910401896012e-16i  1.74840105242669 - 1.50612544542040e-16i  1.74840105242670 + 5.16669897190810e-18i  1.74840105242669 - 9.43110712919080e-17i  1.74840105242670 - 1.98056984465488e-17i  1.74840105242670 - 9.83332901905422e-17i  1.74840105242670 + 6.79685457779886e-17i  1.74840105242669 + 1.39621370382637e-16i  1.74840105242669 + 2.66685537887917e-16i  1.74840105242670 + 4.95092082477905e-17i  1.74840105242670 + 4.94340008501645e-17i  1.74840105242669 + 2.73441734131735e-19i |
|  | Mean value: s1.7484 |
|  | Standard value: 1.7480 |

1. , int=integral(@(EF) Gless21(EF),-4,0,"ArrayValued",true,'RelTol',1e-4,'AbsTol',1e-13)

|  |  |
| --- | --- |
|  |  |
| 7.13915868717943e-16 - 1.07887328352756i  -4.91922102987639e-16 - 1.07887328352757i  -7.24571374089669e-16 - 1.07887328352758i  7.93299506674901e-17 - 1.07887328352757i  2.65337062994832e-16 - 1.07887328352755i  8.23267683747605e-16 - 1.07887328352757i  1.44596957496998e-15 - 1.07887328352758i  -1.44203798695113e-15 - 1.07887328352755i  1.75533614025696e-15 - 1.07887328352757i  1.77801072197768e-16 - 1.07887328352757i  3.38436912308126e-16 - 1.07887328352756i  1.01187316376337e-15 - 1.07887328352756i  2.02844408668948e-16 - 1.07887328352757i  1.13235235995809e-15 - 1.07887328352757i  -5.22696159958944e-18 - 1.07887328352756i  -1.14422228334320e-15 - 1.07887328352756i  5.63093097252429e-16 - 1.07887328352757i  3.49521254064753e-16 - 1.07887328352758i  -6.14441056579315e-16 - 1.07887328352757i  -2.42104001916466e-16 - 1.07887328352755i  -1.68557529302419e-15 - 1.07887328352757i  4.54109778923872e-16 - 1.07887328352758i  8.44760123344837e-16 - 1.07887328352755i  6.87142929540423e-16 - 1.07887328352757i  6.28021477399093e-17 - 1.07887328352757i  -7.84571425548873e-16 - 1.07887328352756i  -5.09699973710442e-16 - 1.07887328352756i  5.42550402781736e-17 - 1.07887328352757i  -1.54743769355351e-15 - 1.07887328352756i  -1.28303613862495e-18 - 1.07887328352756i | 1.74715197876686 - 1.15613162523155e-15i  1.74715197876685 + 7.96629862613560e-16i  1.74715197876683 + 1.17338739342896e-15i  1.74715197876684 - 1.28468729739046e-16i  1.74715197876687 - 4.29692885837203e-16i  1.74715197876684 - 1.33321844620287e-15i  1.74715197876683 - 2.34163607785813e-15i  1.74715197876687 + 2.33526917463456e-15i  1.74715197876684 - 2.84263134297229e-15i  1.74715197876684 - 2.87935107727836e-16i  1.74715197876686 - 5.48072447482923e-16i  1.74715197876685 - 1.63865045814258e-15i  1.74715197876685 - 3.28490857451740e-16i  1.74715197876685 - 1.83375721372338e-15i  1.74715197876686 + 8.46466071696716e-18i  1.74715197876686 + 1.85297963812368e-15i  1.74715197876685 - 9.11885792442464e-16i  1.74715197876683 - 5.66022683093617e-16i  1.74715197876684 + 9.95039847801274e-16i  1.74715197876687 + 3.92068737333722e-16i  1.74715197876684 + 2.72965903737892e-15i  1.74715197876683 - 7.35395723425503e-16i  1.74715197876687 - 1.36802379261770e-15i  1.74715197876684 - 1.11277491747391e-15i  1.74715197876684 - 1.01703229072301e-16i  1.74715197876686 + 1.27055284393520e-15i  1.74715197876685 + 8.25419751552186e-16i  1.74715197876685 - 8.78618484926681e-17i  1.74715197876685 + 2.50595586116518e-15i  1.74715197876686 + 2.07777795840721e-18i |
|  | Mean value: 1.747 + 0.0000i |
|  | Standard value: 1.7480 |

**有限偏压的情况**