```
l1 = 1.0;
l2 = 1.0;
l3 = 1.0;
J[t1_, t2_, t3_] := {{-l1 Sin[t1] - l2 Sin[t1 + t2] -
    l3 Sin[t1 + t2 + t3], -l2 Sin[t1 + t2] -
    l3 Sin[t1 + t2 + t3], -l3
    Sin[t1 + t2 + t3]}, {
   l1 Cos[t1] + l2 Cos[t1 + t2] + l3 Cos[t1 + t2 + t3],
   l2 Cos[t1 + t2] + l3 Cos[t1 + t2 + t3],
   l3 Cos[t1 + t2 + t3]}};
Print[Eigensystem[J[0.1, 0.1, -0.1] . Transpose[J[0.1, 0.1, -0.1]]]];
```