In[•]:=
```
σ⃗ = Table[PauliMatrix[i], {i, 3}];
```
表格 泡利自旋矩阵

In[•]:=
```
n⃗ = {Sin[θ] Cos[φ], Sin[θ] Sin[φ], Cos[θ]};
```
正弦 余弦 正弦 正弦 余弦

In[•]:=
```
Grid[
```
格子

```
 Insert[
```
插入

```
  Transpose[{Eigenvalues[n⃗.σ⃗],
```
转置 特征值

```
    TraditionalForm /@ Assuming[{θ, φ} ∈ Reals, Normalize /@ Simplify[
```
传统格式 假定 实数域 正规化 化简

```
      Eigenvectors[n⃗.σ⃗]]]}], {"Eigenvalue", "Eigenvector"}, 1],
```
特征向量

```
 Frame → All]
```
边框 全部

Out[•]=

Eigenvalue	Eigenvector
-1	$\left\{\frac{\tan\left(\frac{\theta}{2}\right)\left(-\cos(\varphi)+i\sin(\varphi)\right)}{\sqrt{1+\left\lvert\left(i\sin(\varphi)-\cos(\varphi)\right)\tan\left(\frac{\theta}{2}\right)\right\rvert^2}},\ \frac{1}{\sqrt{1+\left\lvert\left(i\sin(\varphi)-\cos(\varphi)\right)\tan\left(\frac{\theta}{2}\right)\right\rvert^2}}\right\}$
1	$\left\{\frac{\cot\left(\frac{\theta}{2}\right)\left(\cos(\varphi)-i\sin(\varphi)\right)}{\sqrt{1+\left\lvert\cot\left(\frac{\theta}{2}\right)\left(\cos(\varphi)-i\sin(\varphi)\right)\right\rvert^2}},\ \frac{1}{\sqrt{1+\left\lvert\cot\left(\frac{\theta}{2}\right)\left(\cos(\varphi)-i\sin(\varphi)\right)\right\rvert^2}}\right\}$