

```
In[1]:= m = 1.;
V[z_] := 3 Tanh[z]^2 - 1;
```

```
In[3]:=
```

```
In[4]:= L =  $\left(-\frac{1}{2} \partial_{z,z} \eta[z] + V[z] \eta[z]\right) m^2$ 
```





```
Out[4]= 1.  $\left((-1 + 3 \text{Tanh}[z]^2) \eta[z] - \frac{\eta''[z]}{2}\right)$ 
```

```
In[5]:= {vals, funs} = NDEigensystem[L, η[z], {z, -5, 5}, 4, Method → {"SpatialDiscretization" →
    線形微分演算子についての固有系
    メソッド
    {"FiniteElement", {"MeshOptions" → {MaxCellMeasure → 0.001}}}}];
    セルの最大サイズ
```

```
In[6]:= vals
```

```
Out[6]=  $\{-9.88901 \times 10^{-8}, 1.49946, 2.00008, 2.09716\}$ 
```

```
In[7]:= funs
```

```
Out[7]= {InterpolatingFunction[ Domain: {{-5., 5.}} Output: scalar][z],
InterpolatingFunction[ Domain: {{-5., 5.}} Output: scalar][z],
InterpolatingFunction[ Domain: {{-5., 5.}} Output: scalar][z],
InterpolatingFunction[ Domain: {{-5., 5.}} Output: scalar][z]}
```

In[8]:= Show[Plot[Evaluate[m * funs], {z, -10, 10}],
 示す [...] 評価
 PlotRange → {{-10, 10}, {-1, 1}}, AxesOrigin → {0, 0}, ImageSize → 1000]
 [...] プロット範囲 [...] 軸の原点 [...] 画像サイズ

