Bohr-Sommerfeld rules \((N=1)\)

Let \(\hat{H}\) be an operator on \(L^2(\mathbb{R})\) and
\[ H: \mathbb{R}^2 \rightarrow \mathbb{R} \]
its symbol; assume \(H\) has a regular minimum:

\[ \mathbf{Y}_E = H^{-1}(E) \]

The "classical action" \(S_0(E) = \text{Area inside } \mathbf{Y}_E\).

Then in first approximation, the \(n\)th eigenvalue \(E_n\) of \(\hat{A}\) solves the equation
\[ 2\pi n \hbar = S_0(E_n) \]