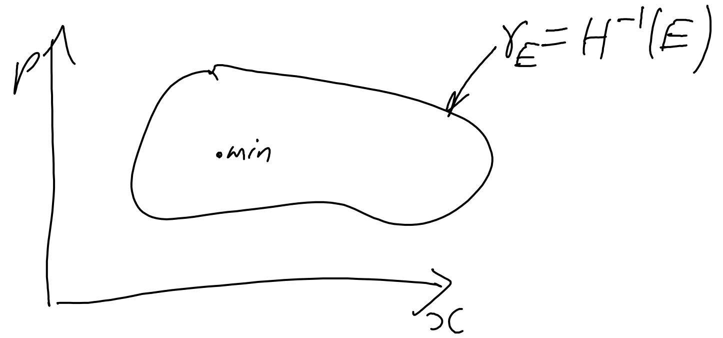
Bohr-Sommerfeld rules $(N=1)$

Let $\hat{H}$ be an operator on $L^2(\mathbb{R})$ and $H: T^*\mathbb{R} \cong \mathbb{R}^2 \longrightarrow \mathbb{R}$ its symbol; assume H has a regular minimum:



The "classical action" $S_0(E) :=$ Area inside γ_E.

Then in first approximation, the nth eigenvalue E_n of $\hat{H}$ solves the eqn

$$2\pi n\hbar = S_0(E_n)$$