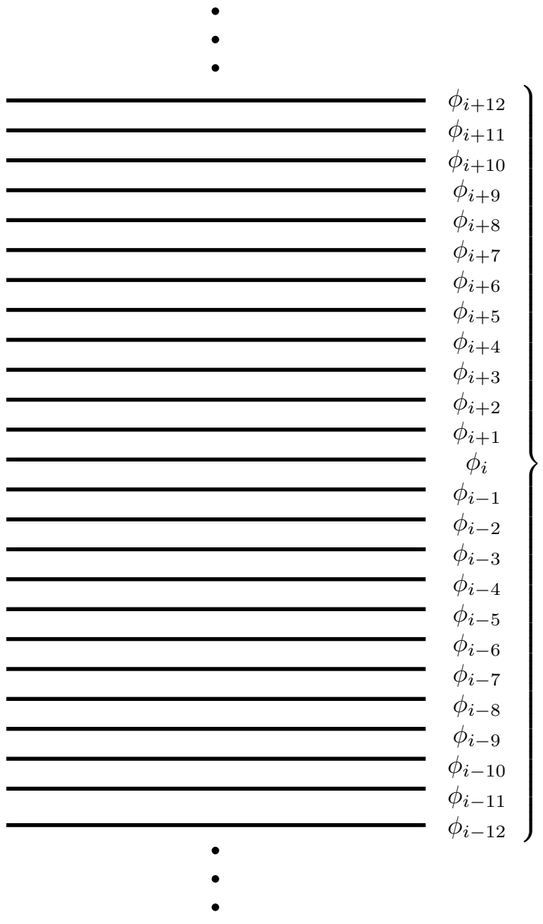
Initial state of WIMP plus nucleus

Final state of WIMP plus nucleus

$\phi_i(\vec{x})e^{\frac{iE_it}{\hbar}}$

[Action of the potential V(x)]



$$\psi(\vec{x},t) = \sum_n a_n(t)\phi_n(\vec{x})e^{\frac{-iE_nt}{\hbar}}$$