Initial state of WIMP plus nucleus

[Action
_ of the
<ul><li>potential</li></ul>
V(x)]

Final state of WIMP plus nucleus

•

	$- \phi_{i+10}$
	$\phi_{i+10}$ $\phi_{i+9}$
	$ \begin{array}{ccc} \phi_{i+9} \\ \phi_{i+8} \end{array} $
	$\varphi_{i+8}$
	$\phi_{i+7}$
	$\phi_{i+6}$
	$\phi_{i+5}$
	$\phi_{i+4}$
	$\phi_{i+3}$
	$\phi_{i+2}$
	$\phi_{i+1}$
	$oldsymbol{\phi_i}$
	$\phi_{i-1}$
	$\phi_{i-2}$
	$\phi_{i-3}$
	$\phi_{i-4}$
	$\phi_{i-5}$
	$\phi_{i-6}$
	$\phi_{i-7}$
	$\phi_{i-8}$
	$\phi_{i-9}$
	$\phi_{i-10}$
	• $\phi_{i-11}$
	$\phi_{i-12}$
•	

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