•) DIRAC EQUATION : $\left[i\vec{\alpha}\cdot\vec{\nabla} - \beta\left(m_N + U_S\right) + E - U_V - U_C \right] *$

$$* \psi_F(\vec{x}) = 0$$

••) POTENTIALS

$$U_{V_S}(r,E,A) = V_\sigma(E,A) f_\sigma(r,E,A) + V_\delta(E,A) f_\delta(E,A)$$

$$+ i\left[W_\sigma(E,A) g_\sigma(r,E,A) + W_\delta(E,A) h_\delta(r,E,A) \right]$$

$$f, g \rightarrow \left[1 + \exp \frac{r - R(E,A)}{a(E,A)} \right]^{-1} \left[1 + \exp \frac{-\left(r + R(E,A)\right)}{a(E,A)} \right]^{-1}$$

$$h_\delta \rightarrow a_\delta(E,A) \frac{d}{dR} g_\sigma(r,E,A)$$

[Cooper, Hama, Cook and Mercer, PRC 47, 297 (1993)]
(EDAD-1)