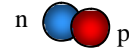
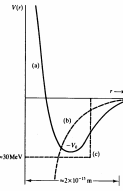
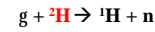
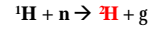


Nukleon-nukleon växelverkan

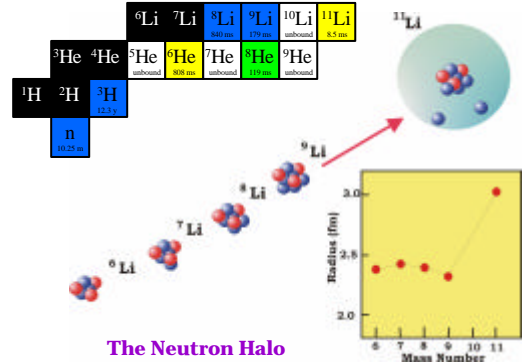
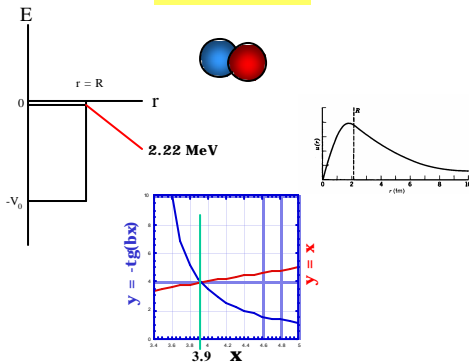
- Stark på små avstånd
- Försumbar vid stora avstånd
- Laddningssymmetrisk (n-n, p-p)
- Laddningsberoende (nn, np, pp)
- Leptoner känner inte av den starka kraften
- Spinnberoende
- Innehåller en icke central komponent (tensor)
- Repulsiv vid små avstånd



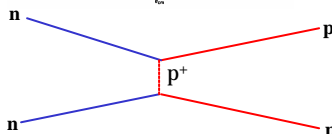
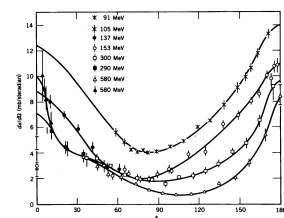
$$B = [m(^1\text{H}) + m(n) - m(^2\text{H})]c^2 = 2.22463 \text{ MeV}$$



The Deuteron



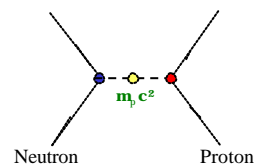
Uthyteskrafter



Yukawa 1935



1949



$$\Delta E \Delta t = \hbar$$

$$\Delta t < \hbar / m_\pi c^2$$

$$R = c \Delta t = \hbar c / m_\pi c^2$$

R=1.4 fm

$$m_\pi c^2 = 140 \text{ MeV}$$