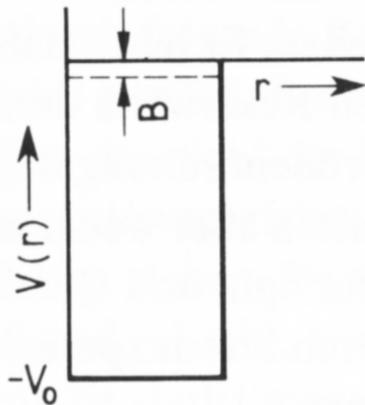
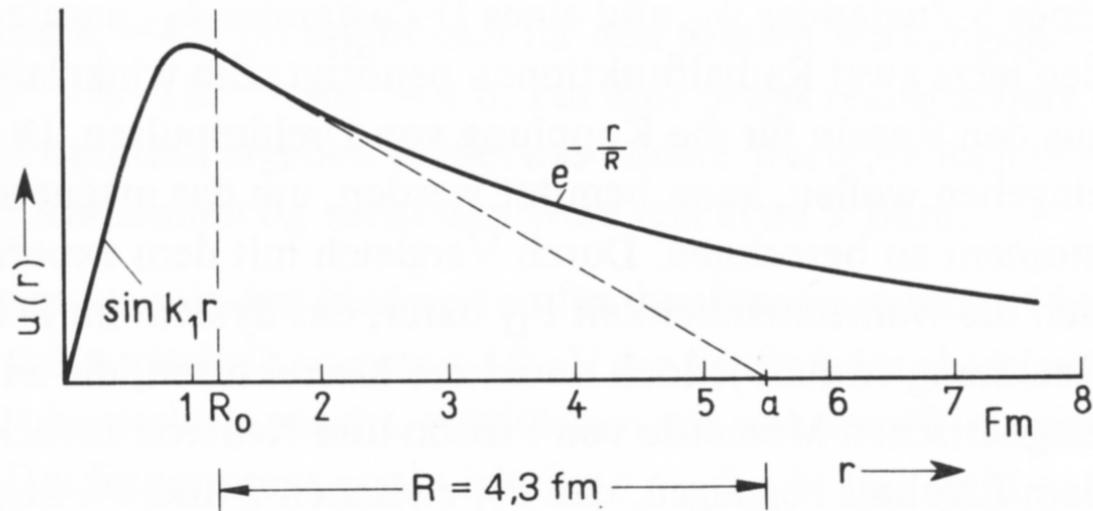


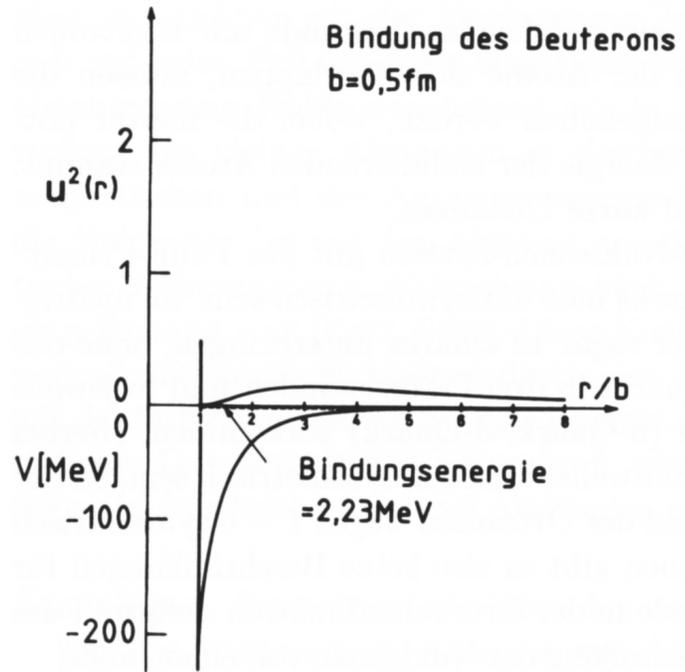
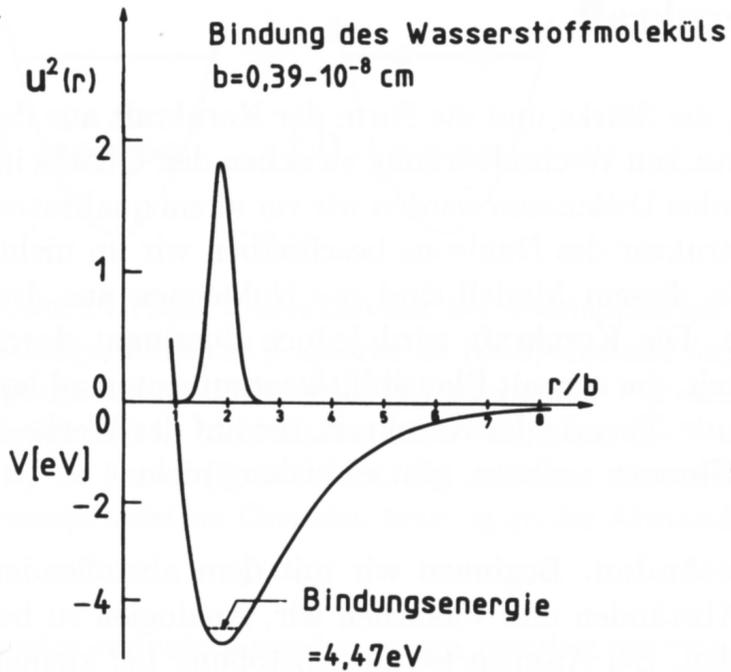
Nukleon-Nukleon Wechselwirkung

- Deuteron
- NN-Streuung

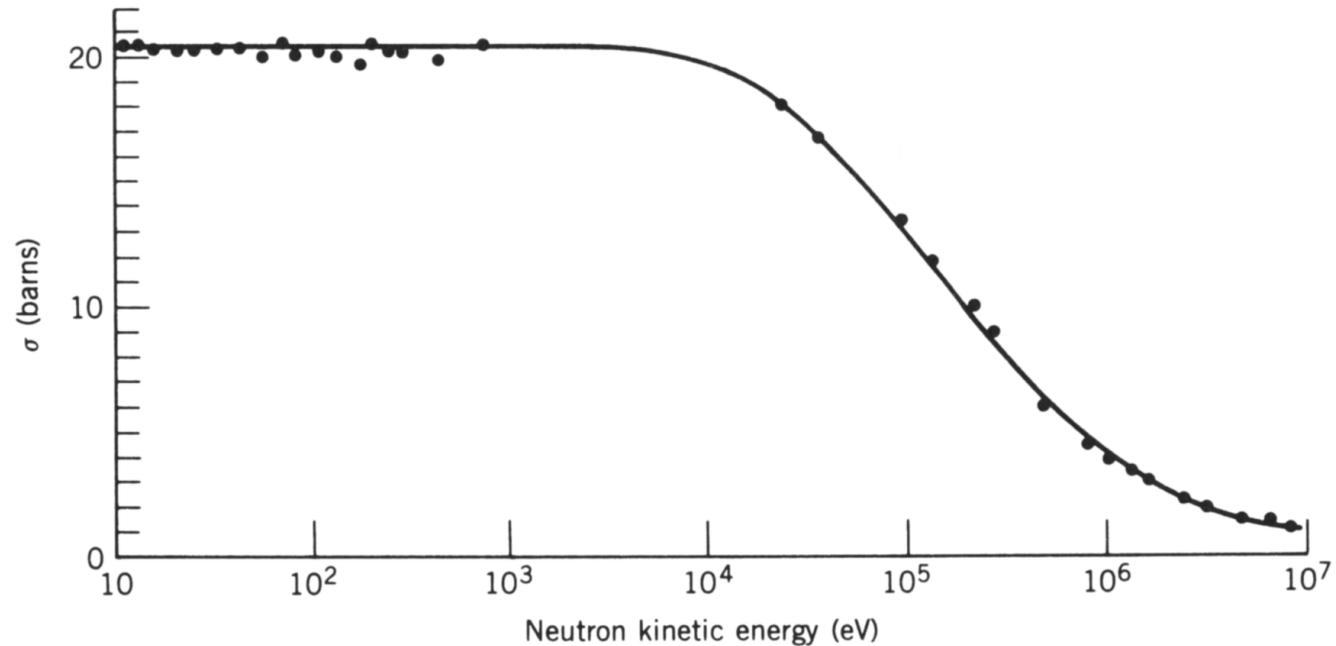
Deuteronpotenzial



H₂ und pn



np-Streuung

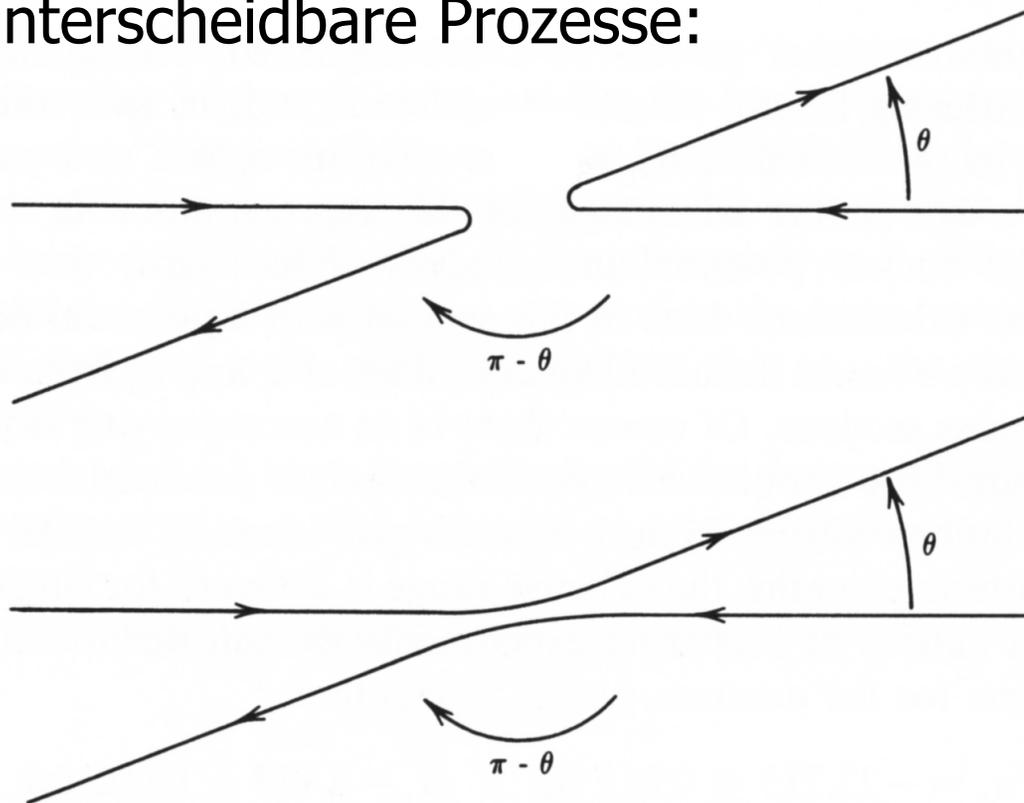


$E < 1\text{keV}: \sigma = 20,4 \text{ barn}$

Einfache Erwartung: $\sigma = 4,6 \text{ barn}$

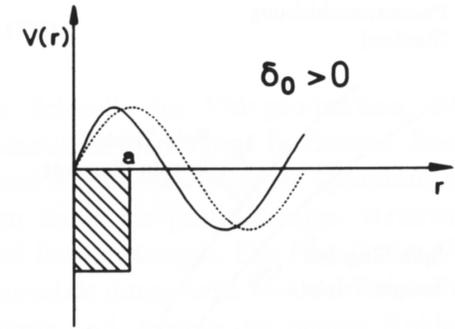
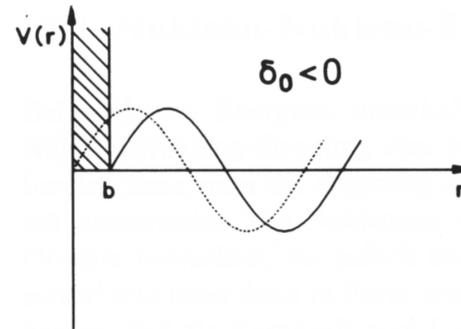
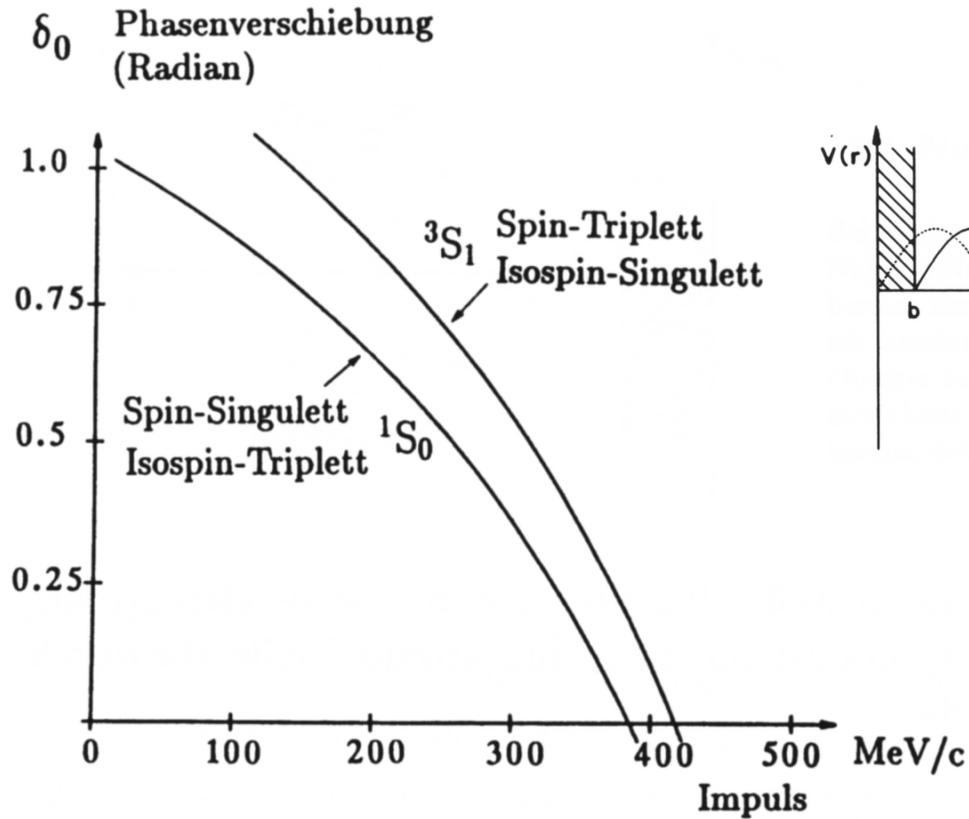
Streuung identischer Teilchen

Nicht unterscheidbare Prozesse:



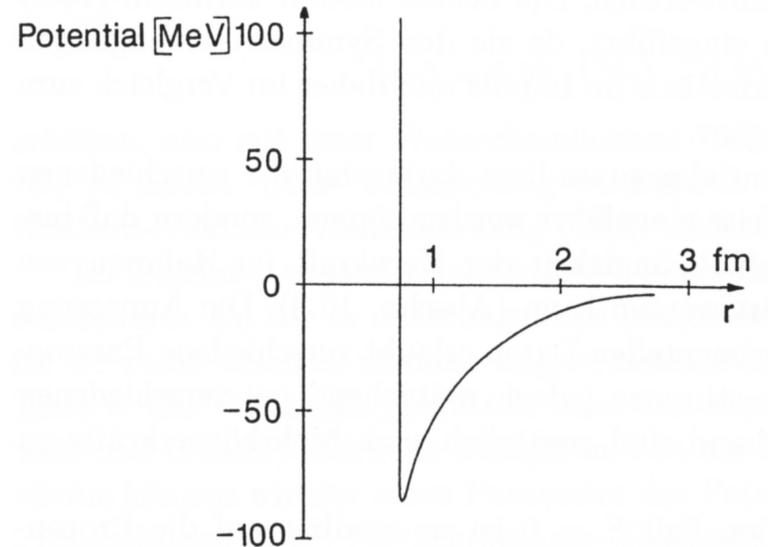
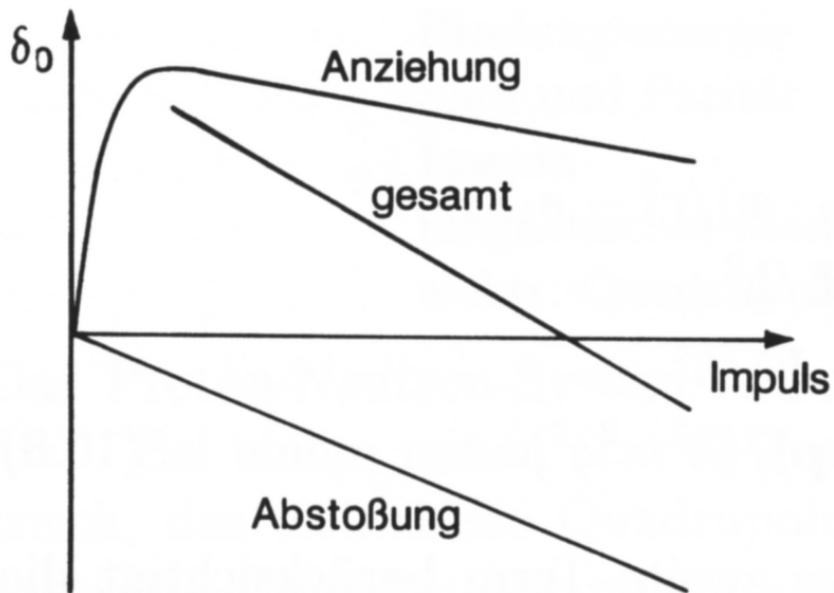
$$\left(\frac{d\sigma}{d\Omega}\right) = |f(\theta) - f(\pi - \theta)|^2$$

Impulsabhängigkeit von δ_0

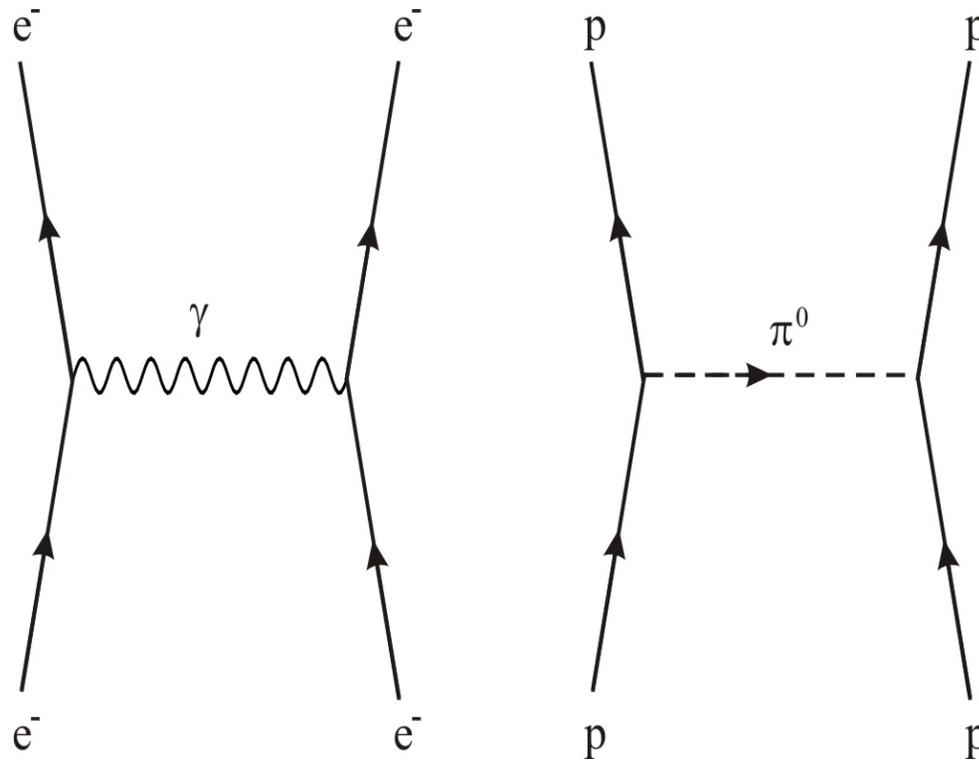


$$u_a(r) \sim \sin(k_a r + \delta_0)$$

Streuphase für das NN-Potenzial

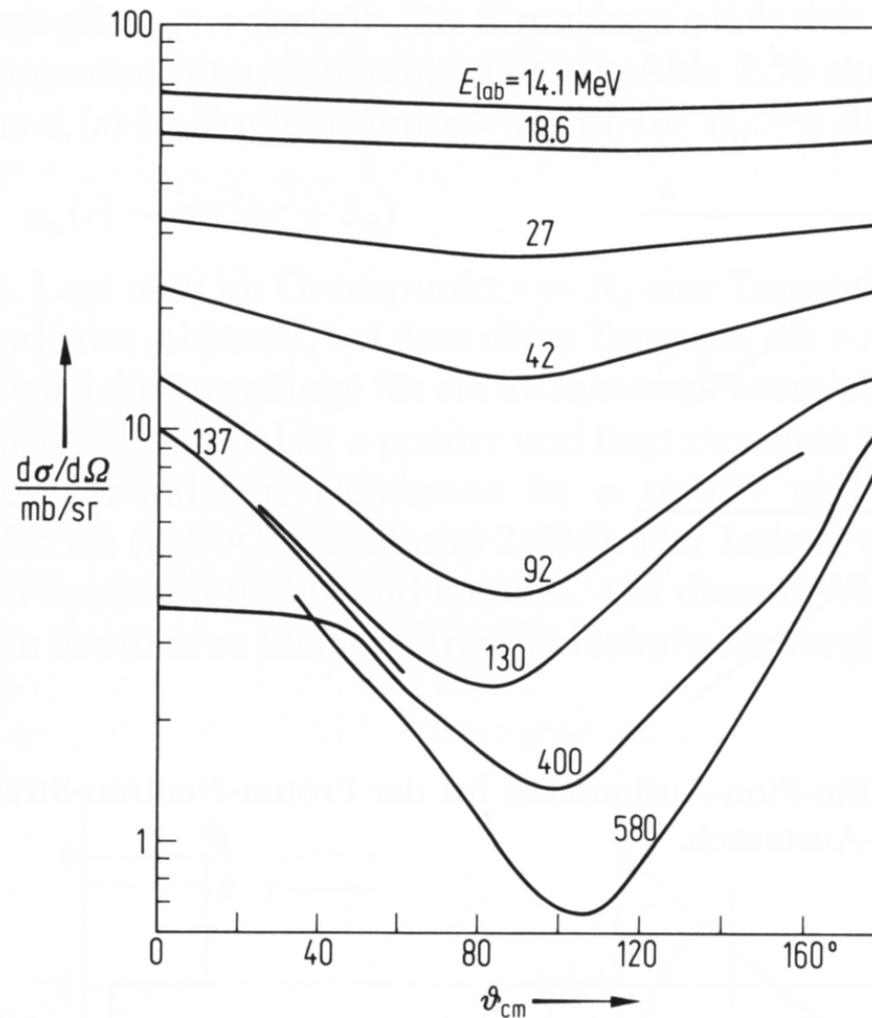


Austauschwechselwirkung

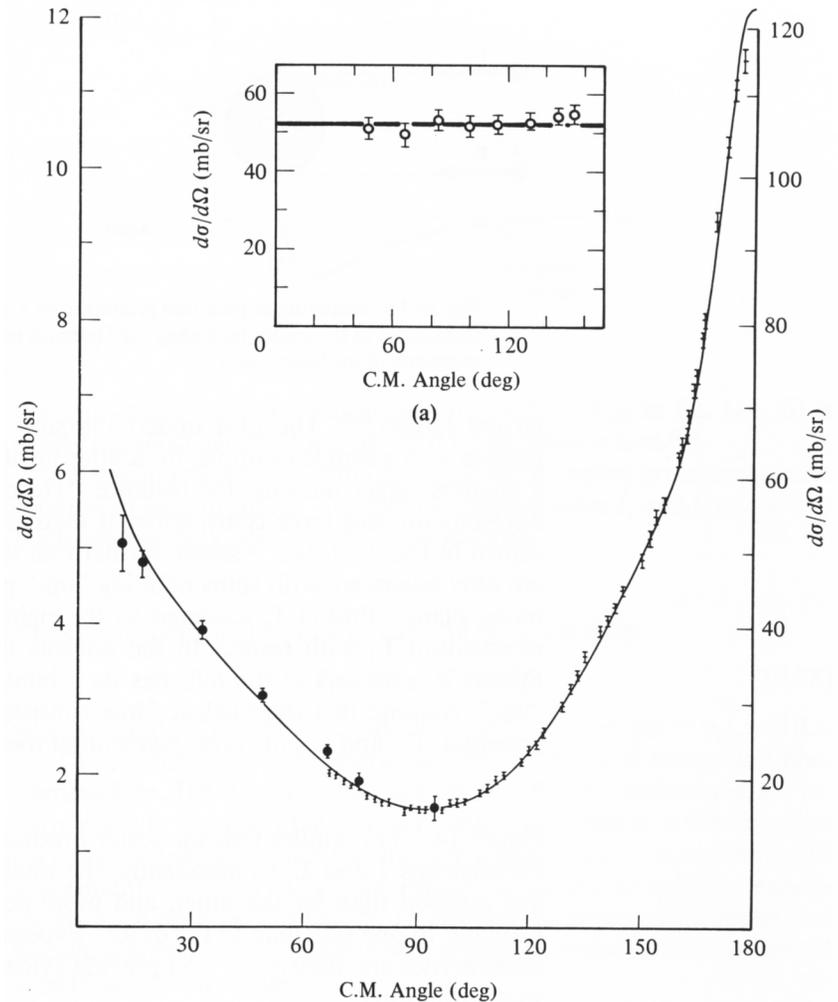
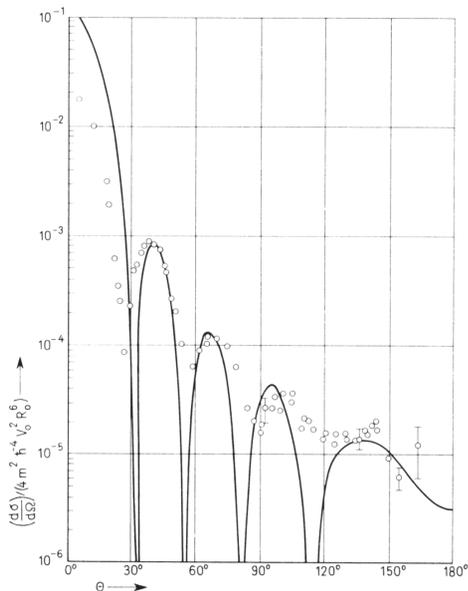
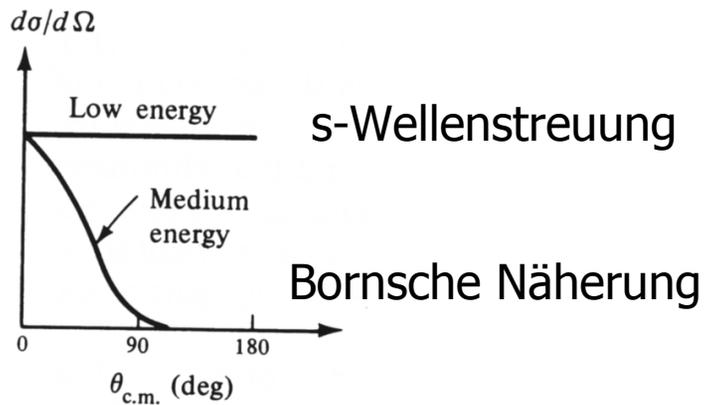


Feynman Diagramme

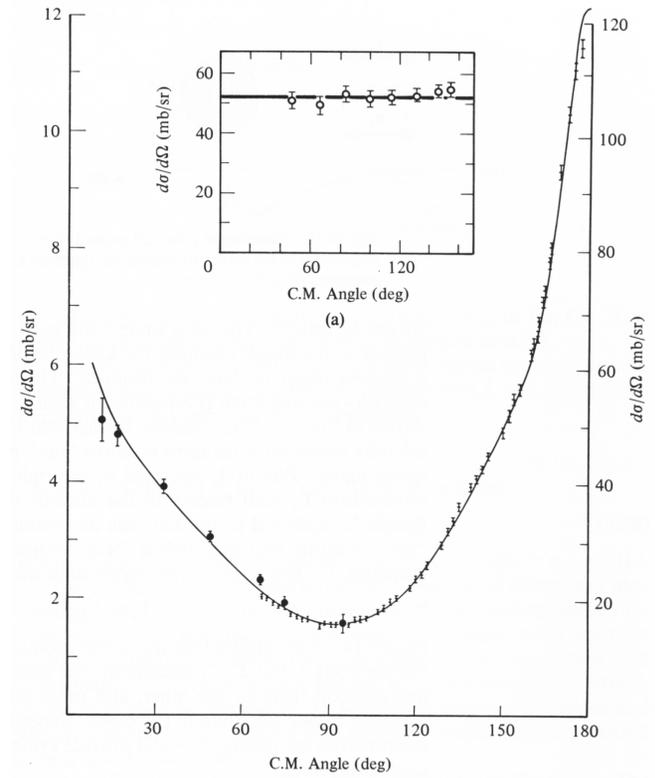
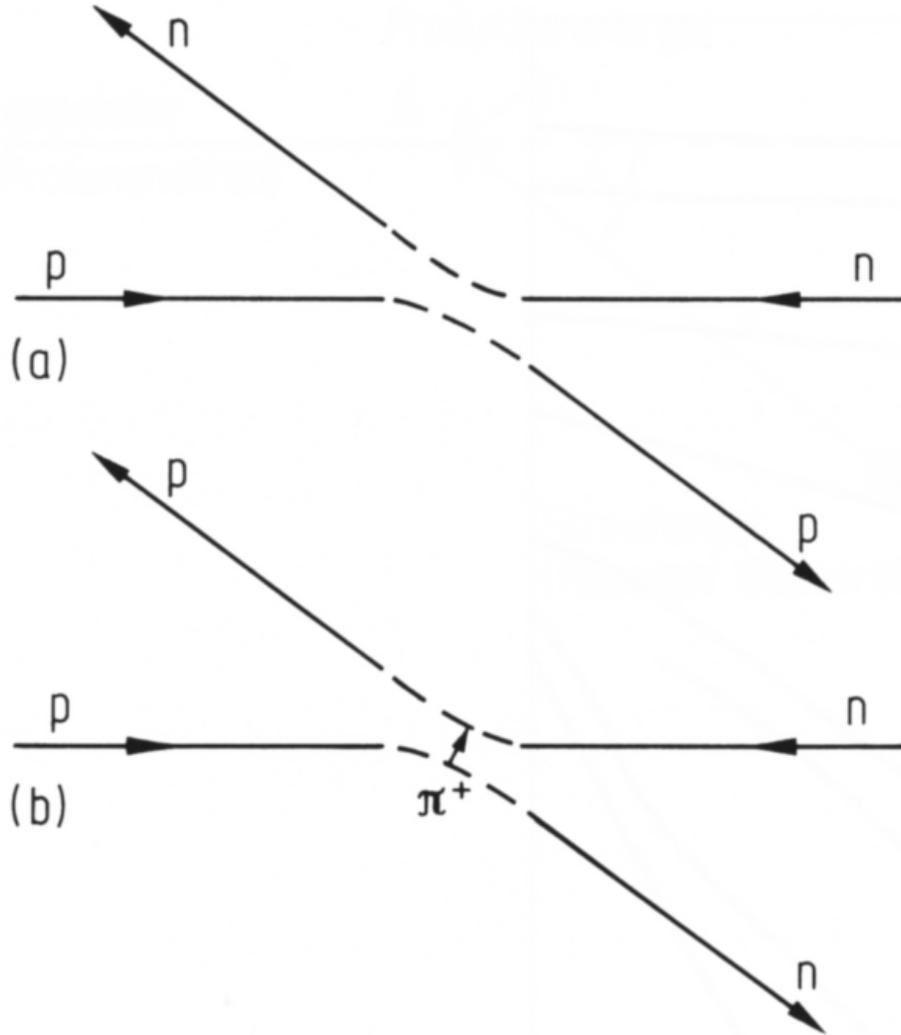
Exp. Hinweis auf Austauschkraft



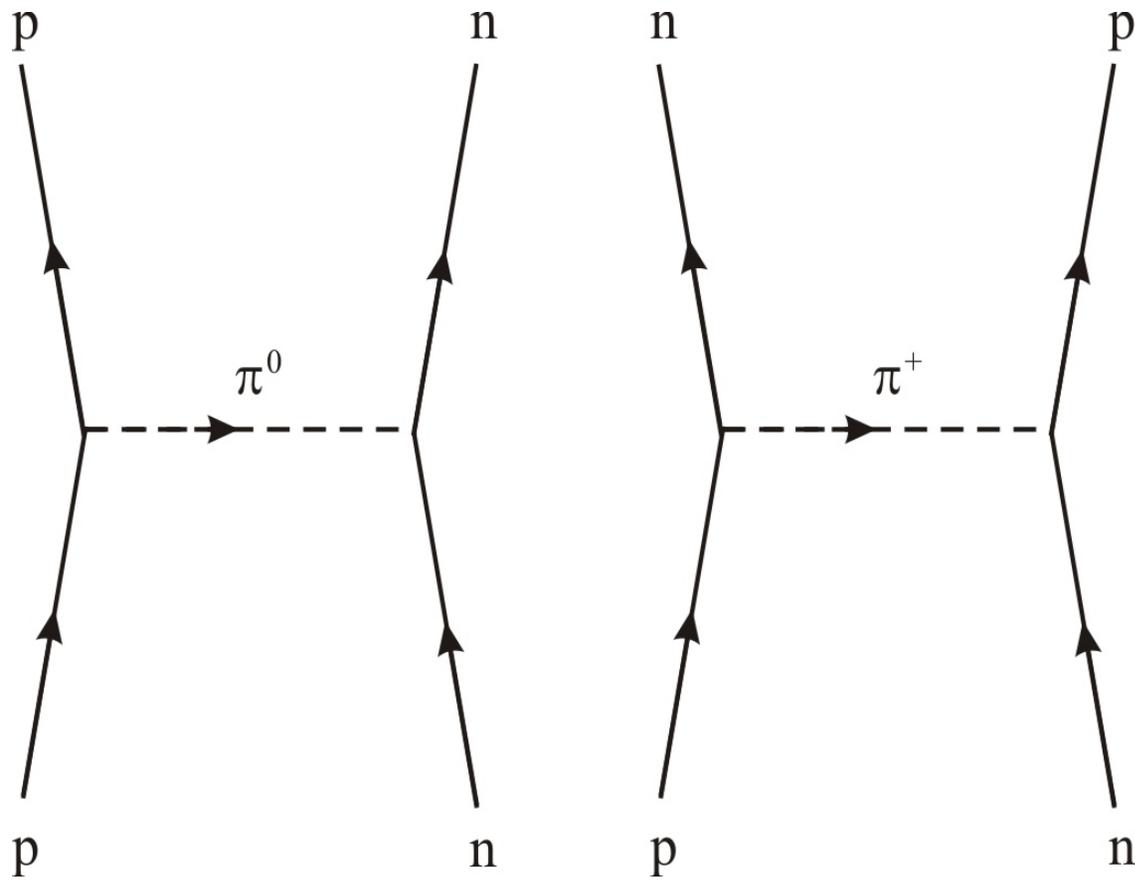
Exp. Hinweis auf Austauschkraft



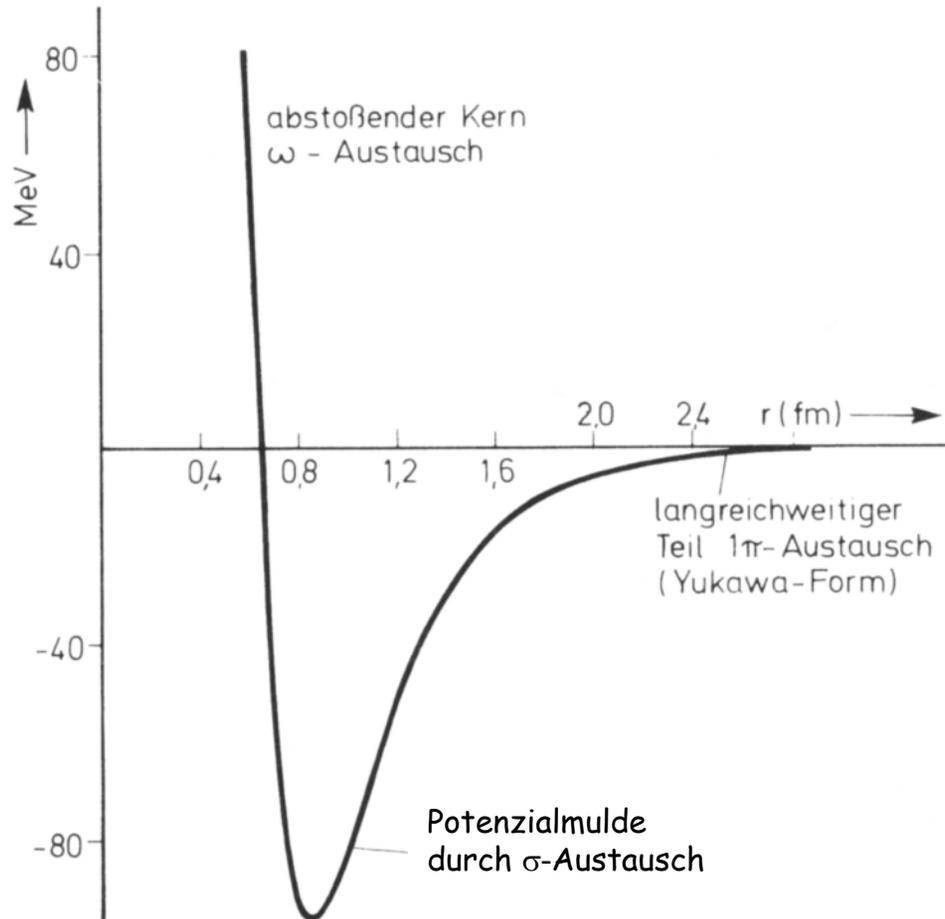
np-Streuung



np-Streuung - diagrammatisch



Form des zentralen NN-Potenzials



$$m(\pi) \cong 140 \text{ MeV} / c^2$$

$$m(\sigma) \cong 500 - 600 \text{ MeV} / c^2$$

$$m(\omega) \cong 784 \text{ MeV} / c^2$$