

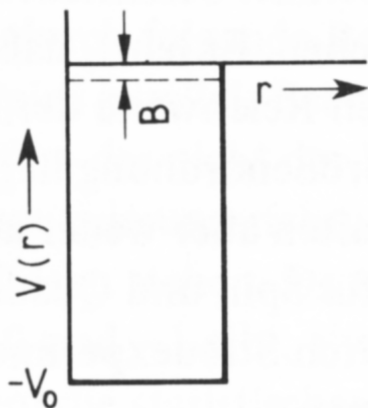
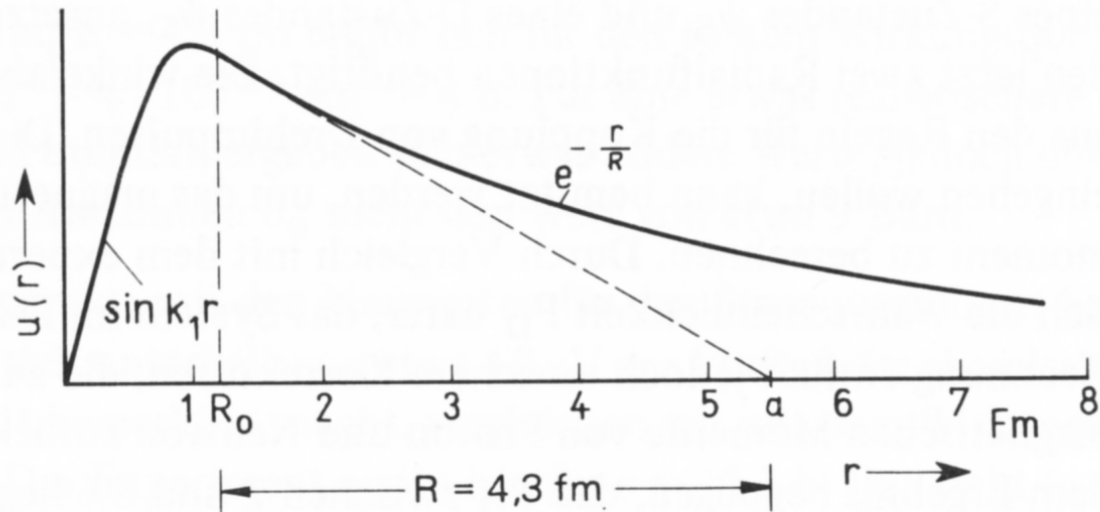


# Nukleon-Nukleon Wechselwirkung

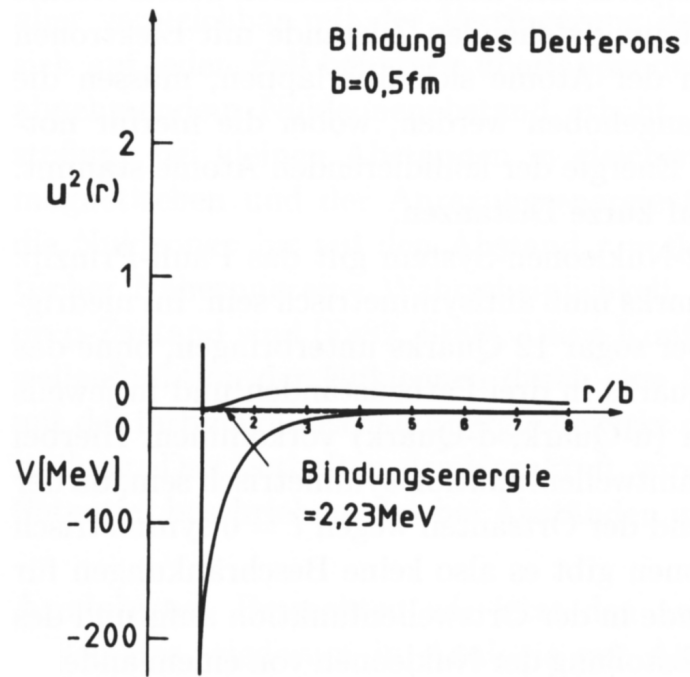
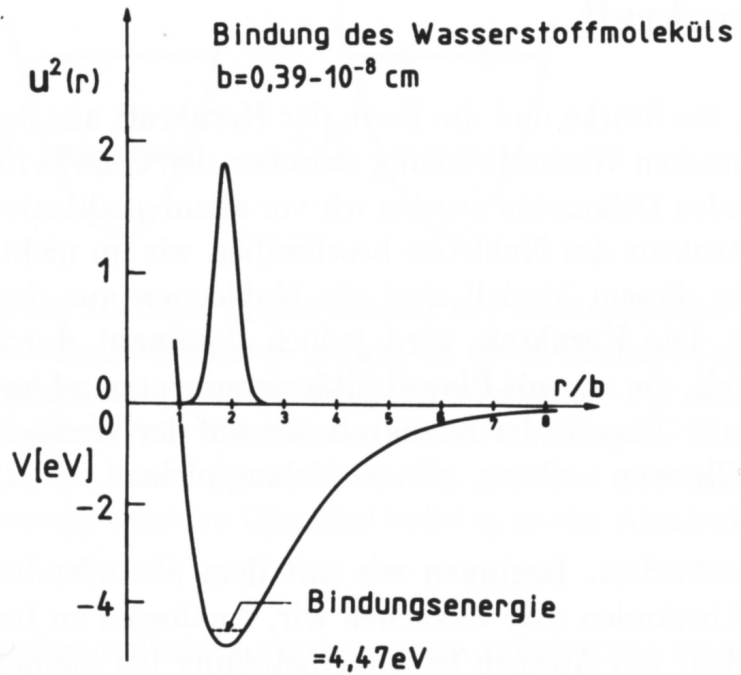
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- Deuteron
- NN-Streuung

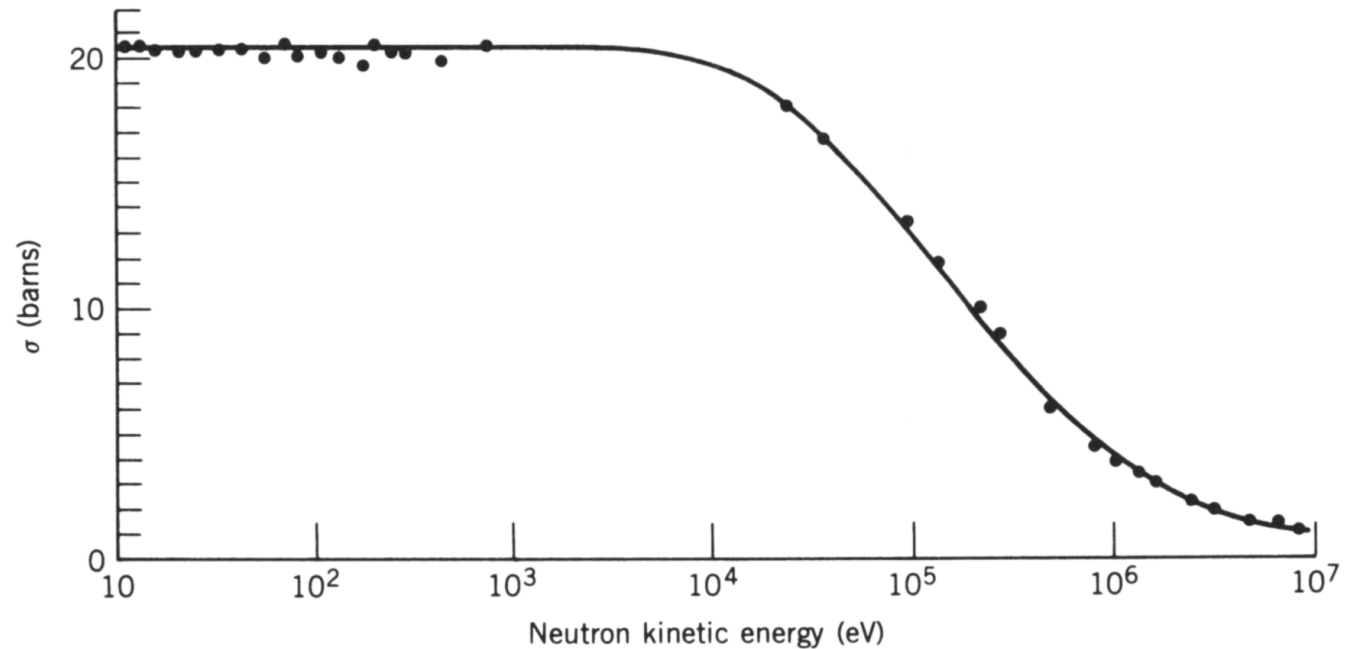
# Deuteronpotenzial



# H<sub>2</sub> und pn



# np-Streuung

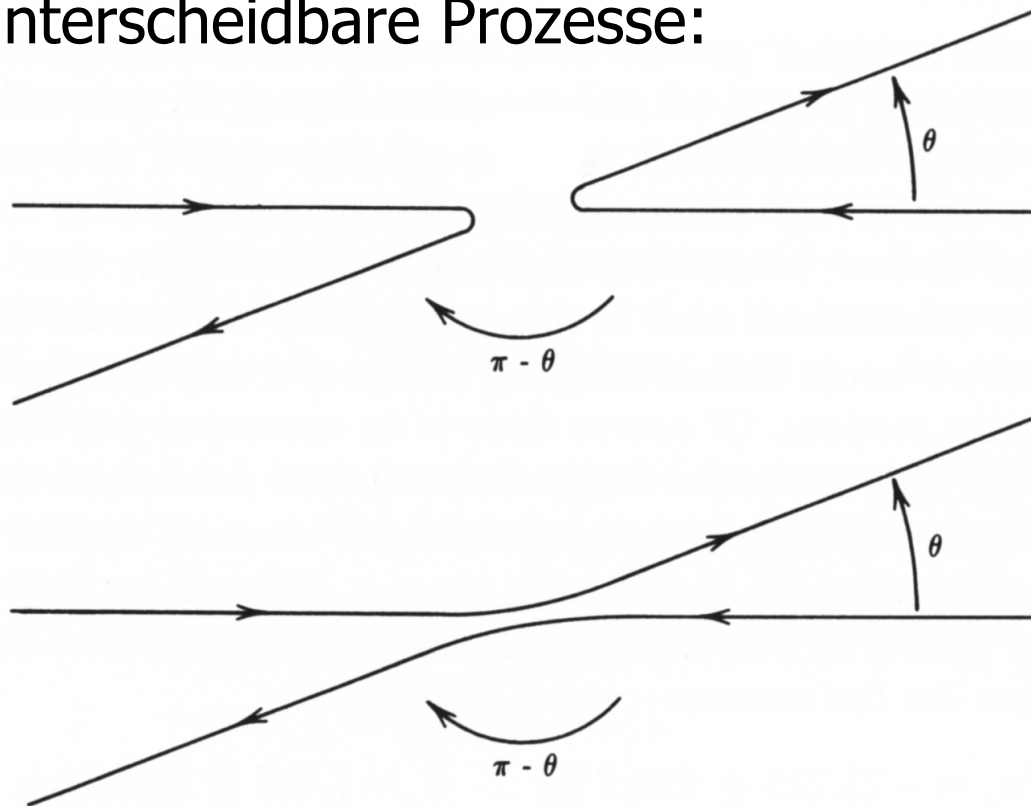


$E < 1\text{keV}: \sigma = 20,4 \text{ barn}$

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

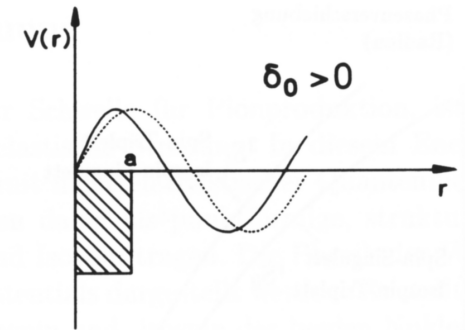
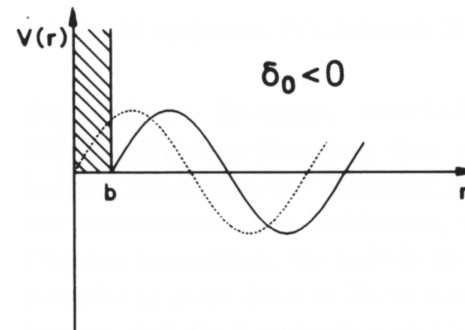
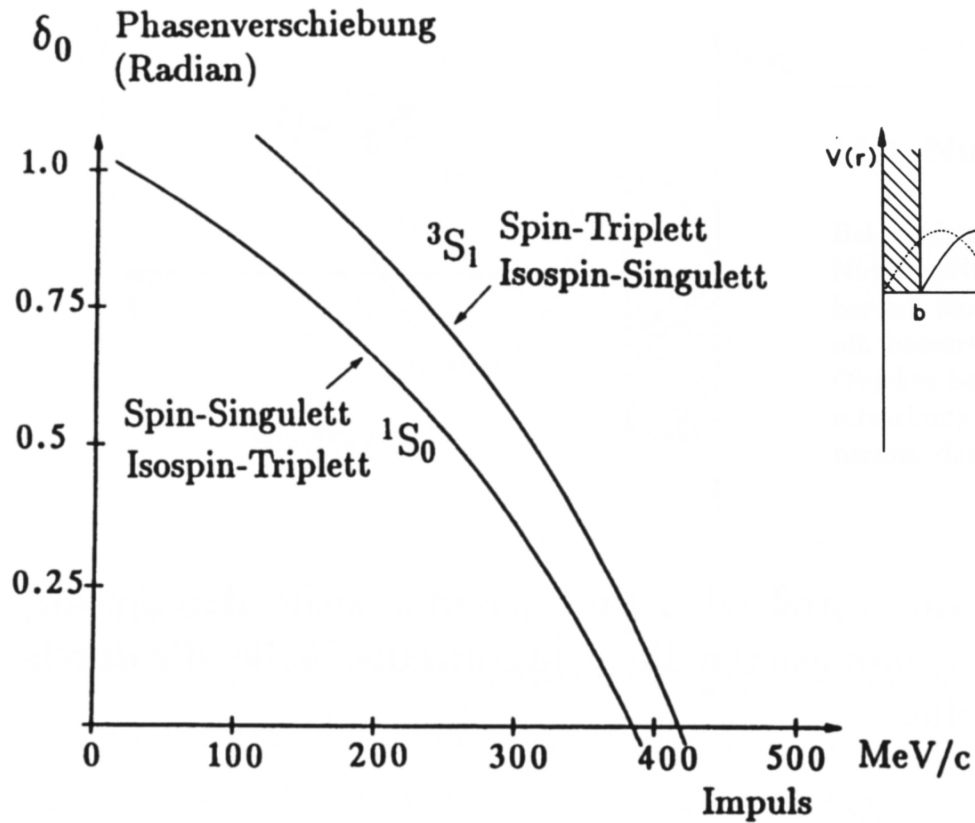
# Streuung identischer Teilchen

Nicht unterscheidbare Prozesse:



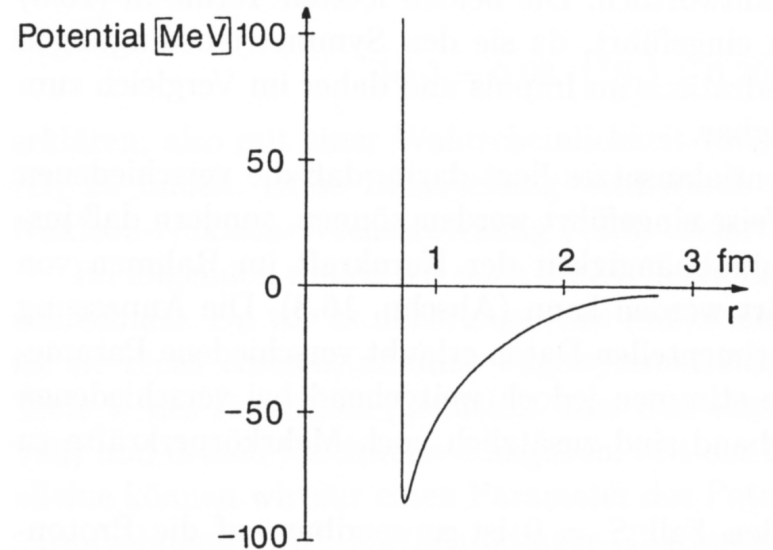
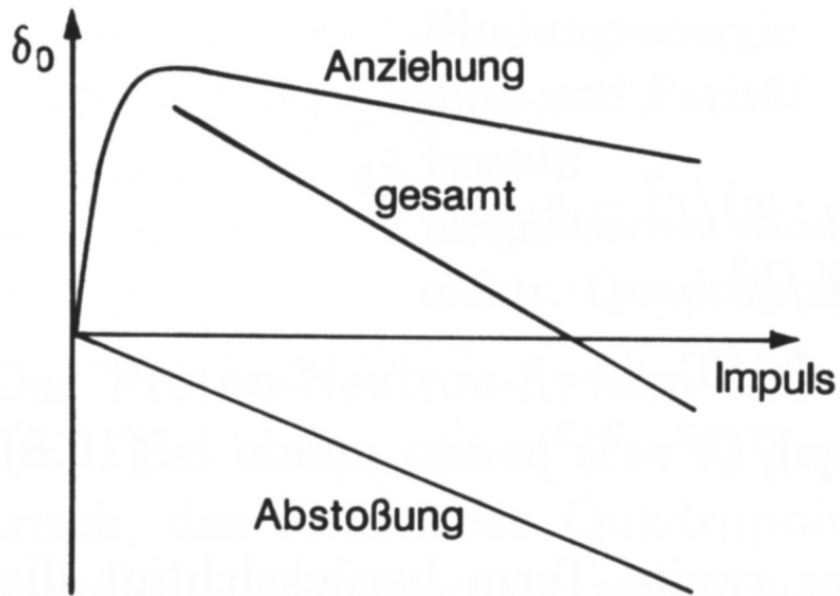
$$\left(\frac{d\sigma}{d\Omega}\right) = |f(\theta) - f(\pi - \theta)|^2$$

# Impulsabhängigkeit von $\delta_0$

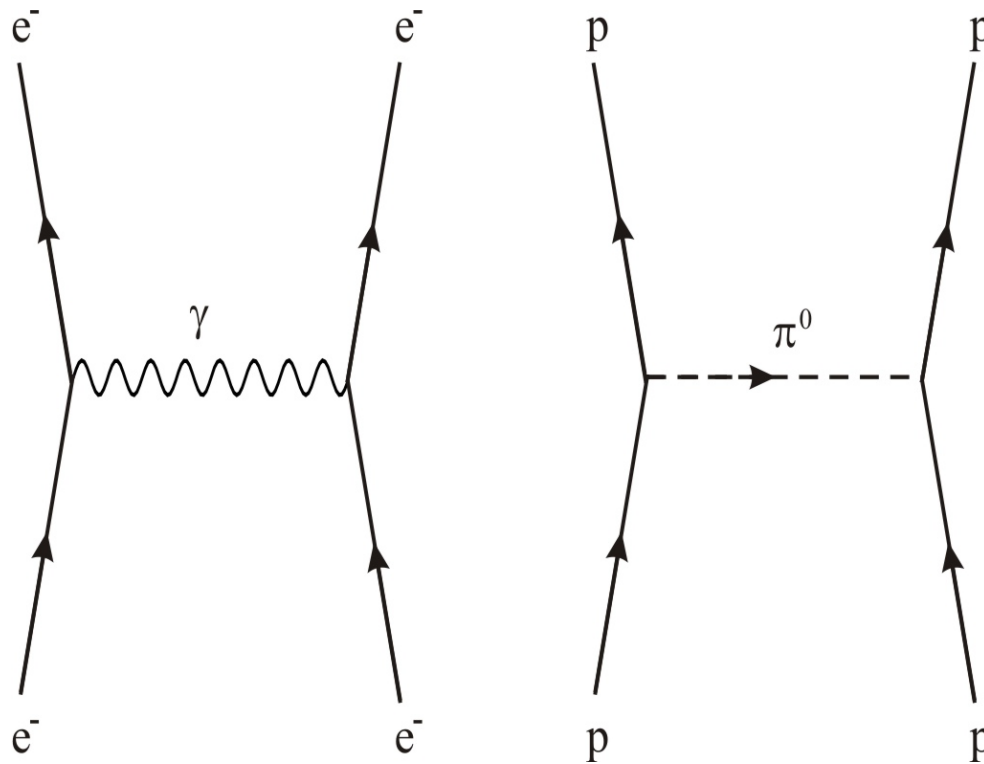


$$u_a(r) \sim \sin(k_a r + \delta_0)$$

# Streuphase für das NN-Potenzial



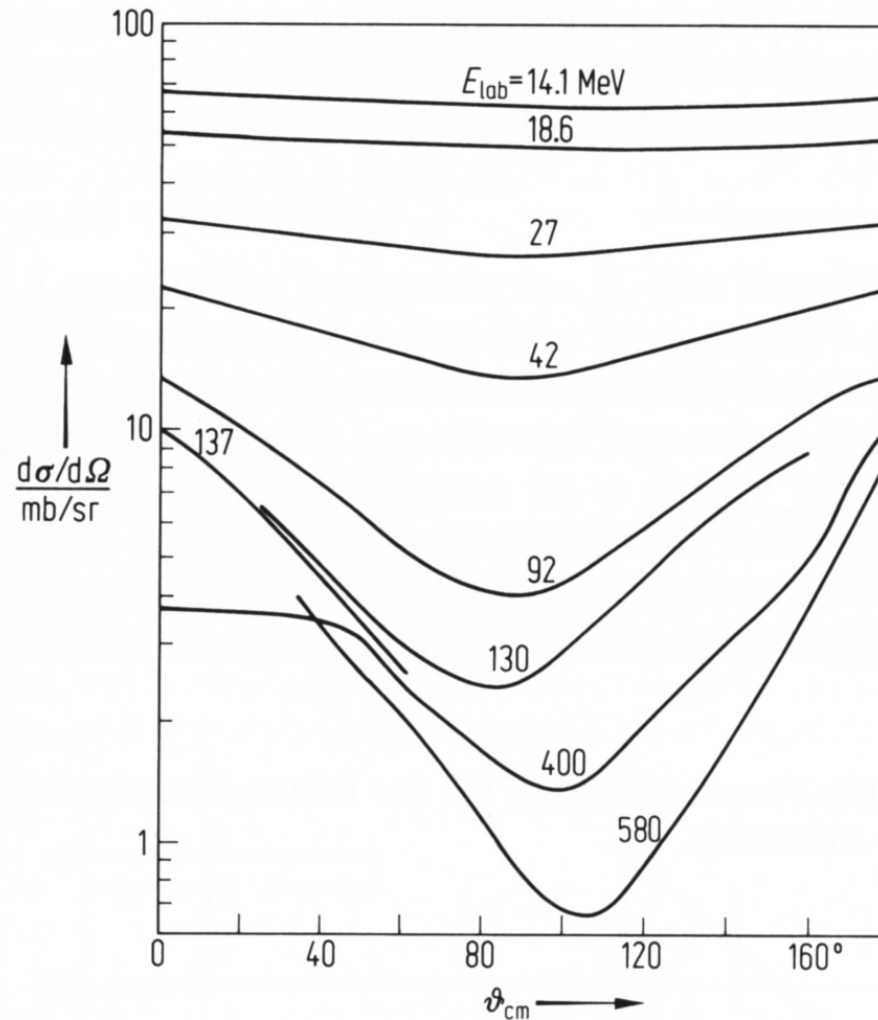
# Austauschwechselwirkung



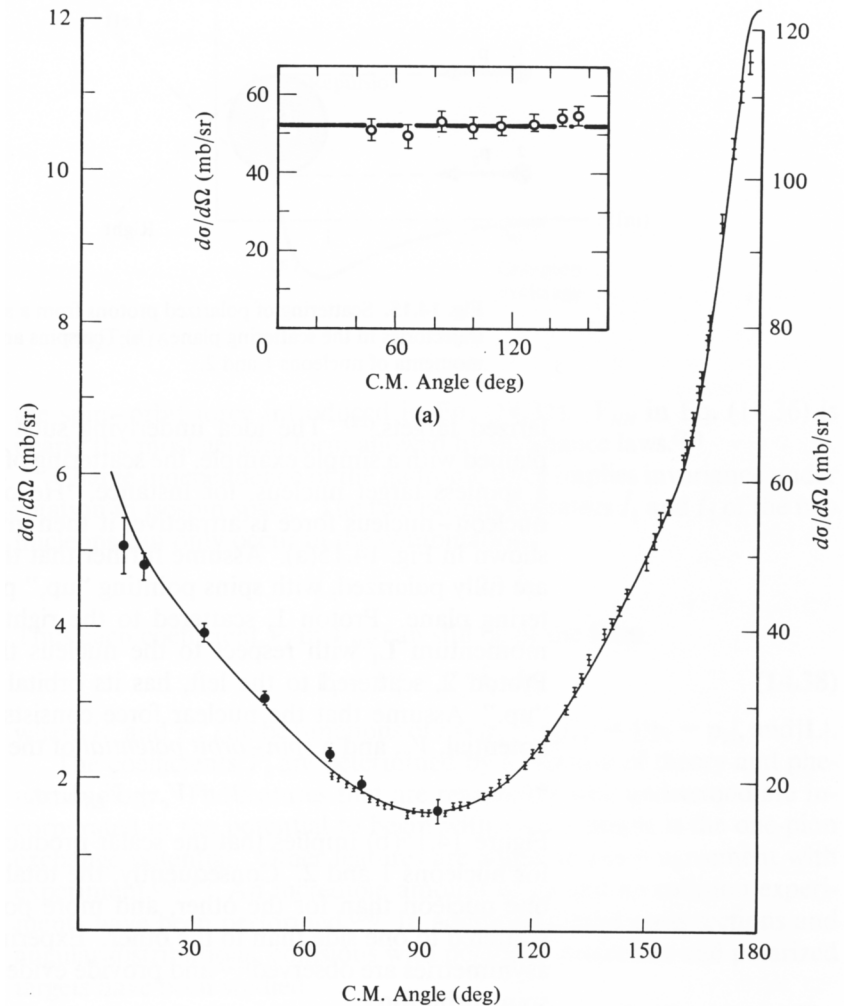
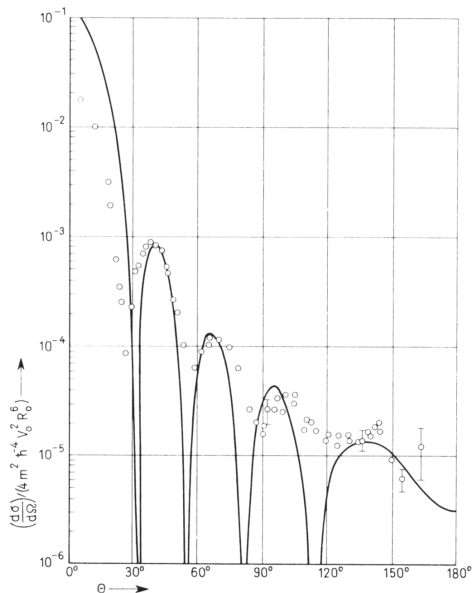
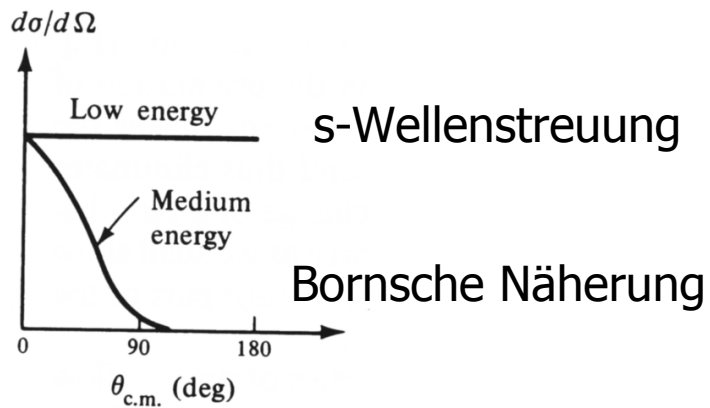
Feynman Diagramme



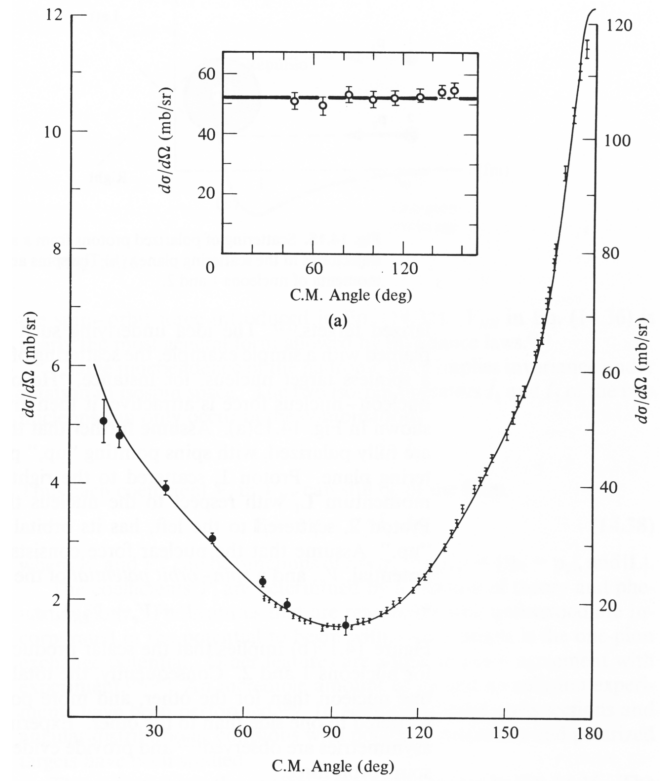
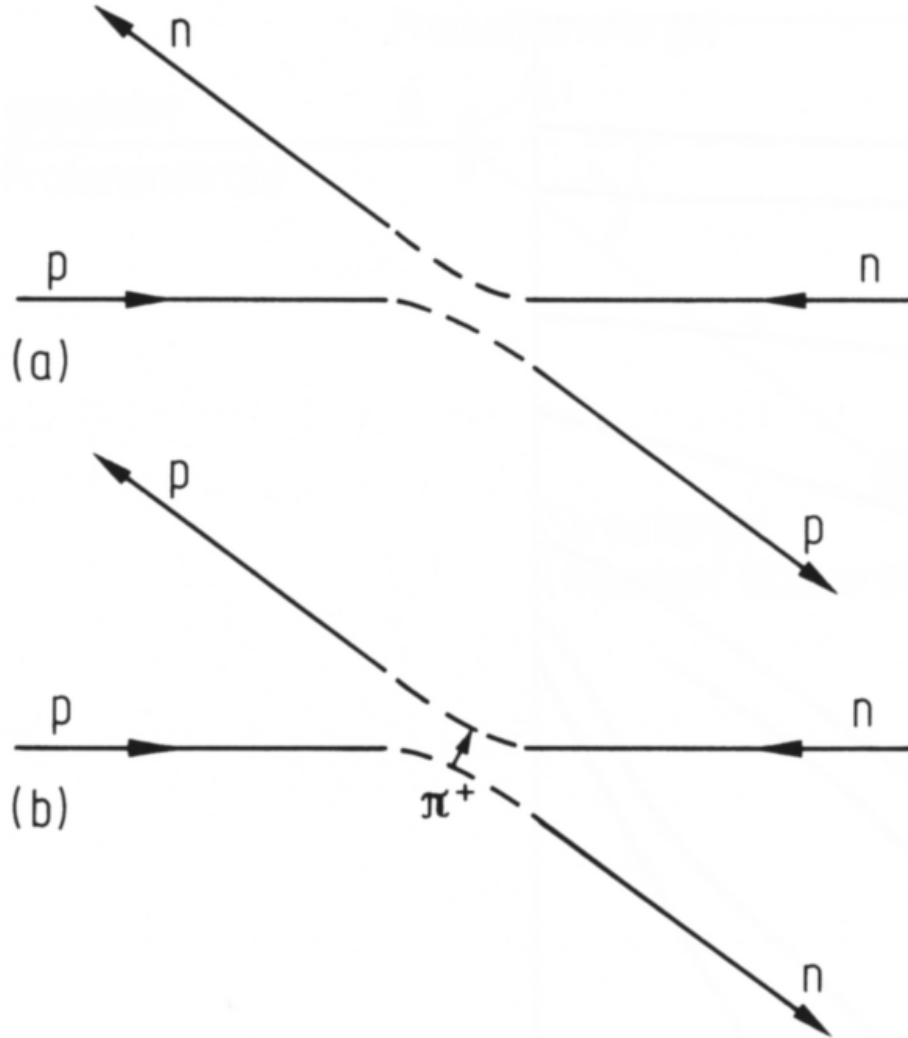
# Exp. Hinweis auf Austauschkraft



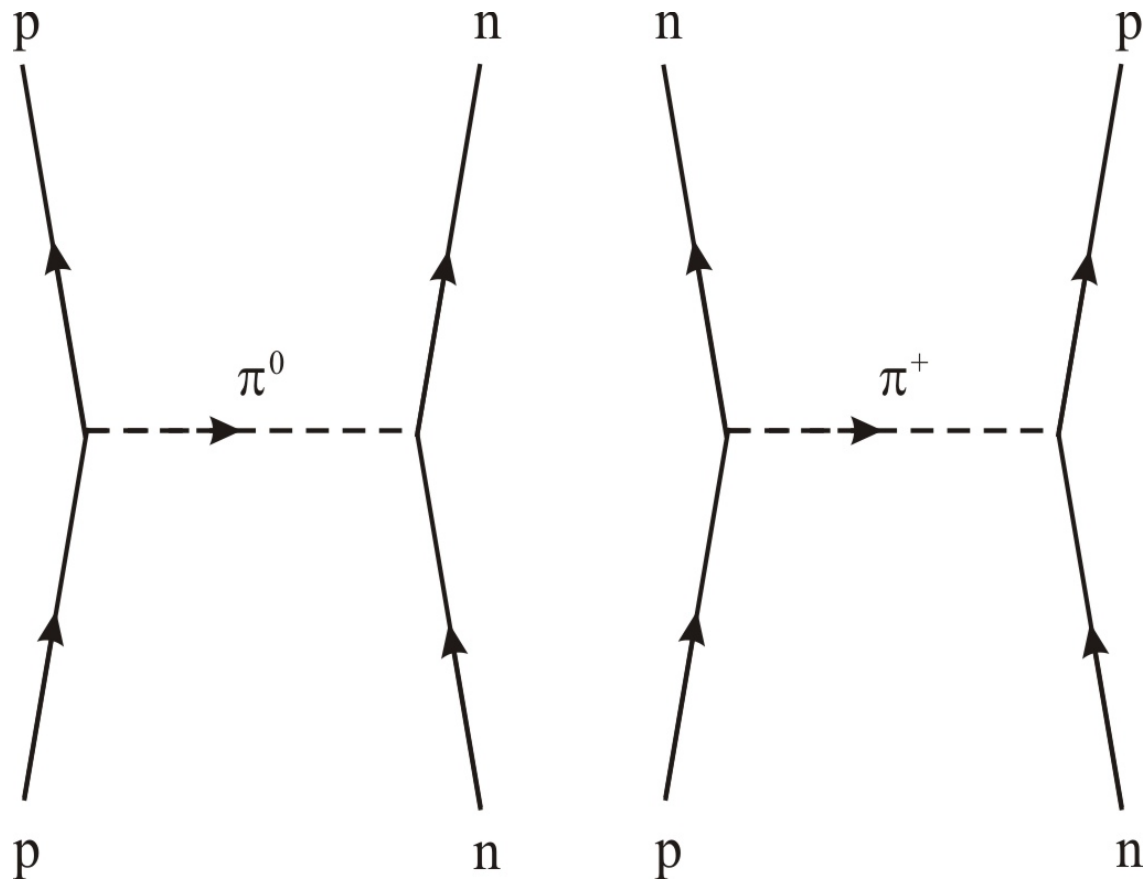
# Exp. Hinweis auf Austauschkraft



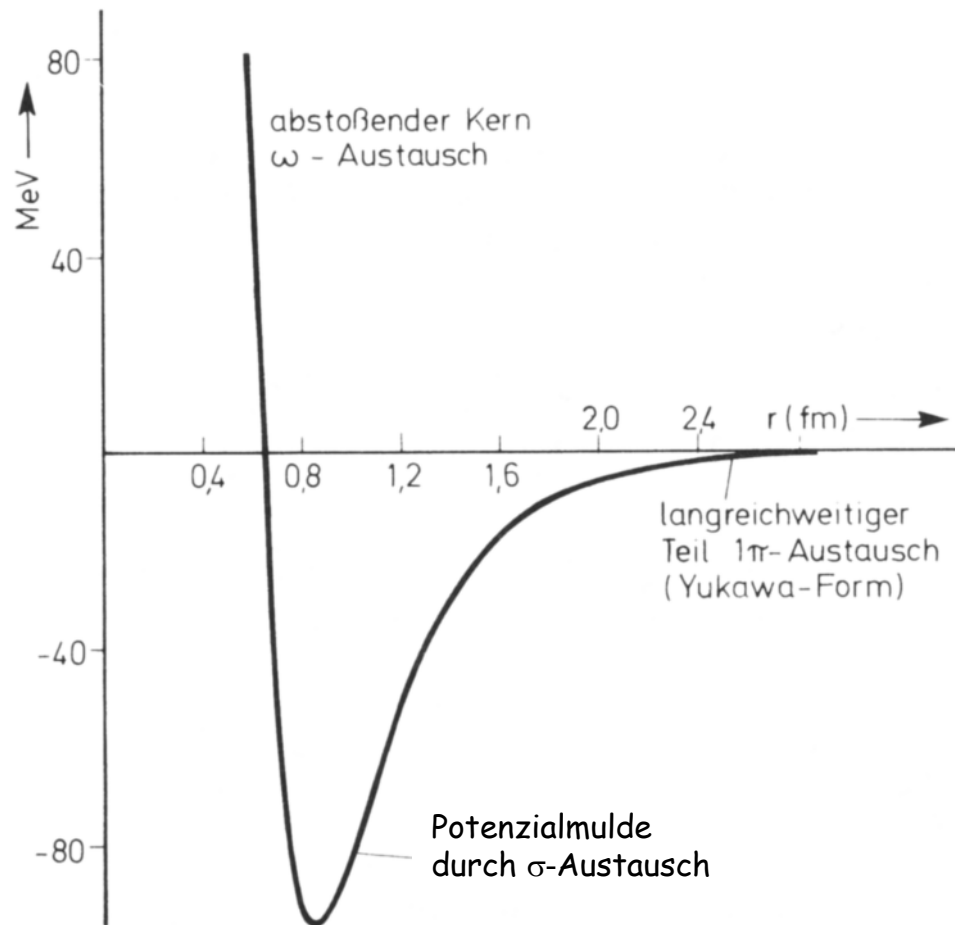
# np-Streuung



# np-Streuung - diagrammatisch



# Form des zentralen NN-Potenzials



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

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

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