

Bestimmung der Proton-Formfaktoren

Experiment

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- a) Mott: Spin $\frac{1}{2}$ Elektron an Spin 0 (Punktförmig):
 $G_E = 1, G_M = 0$
- b) Dirac: Spin $\frac{1}{2}$ Elektronen an Spin $\frac{1}{2}$ Proton (punktf):
 $G_E = 1, G_M = 1$
- c) Wie Dirac aber anomales magn. Moment: $G_E = 1, G_M = 2.79$
- d) Rosenbluth: Punktf Spin $\frac{1}{2}$ Elektronen an ausgedehntem Spin $\frac{1}{2}$ Proton

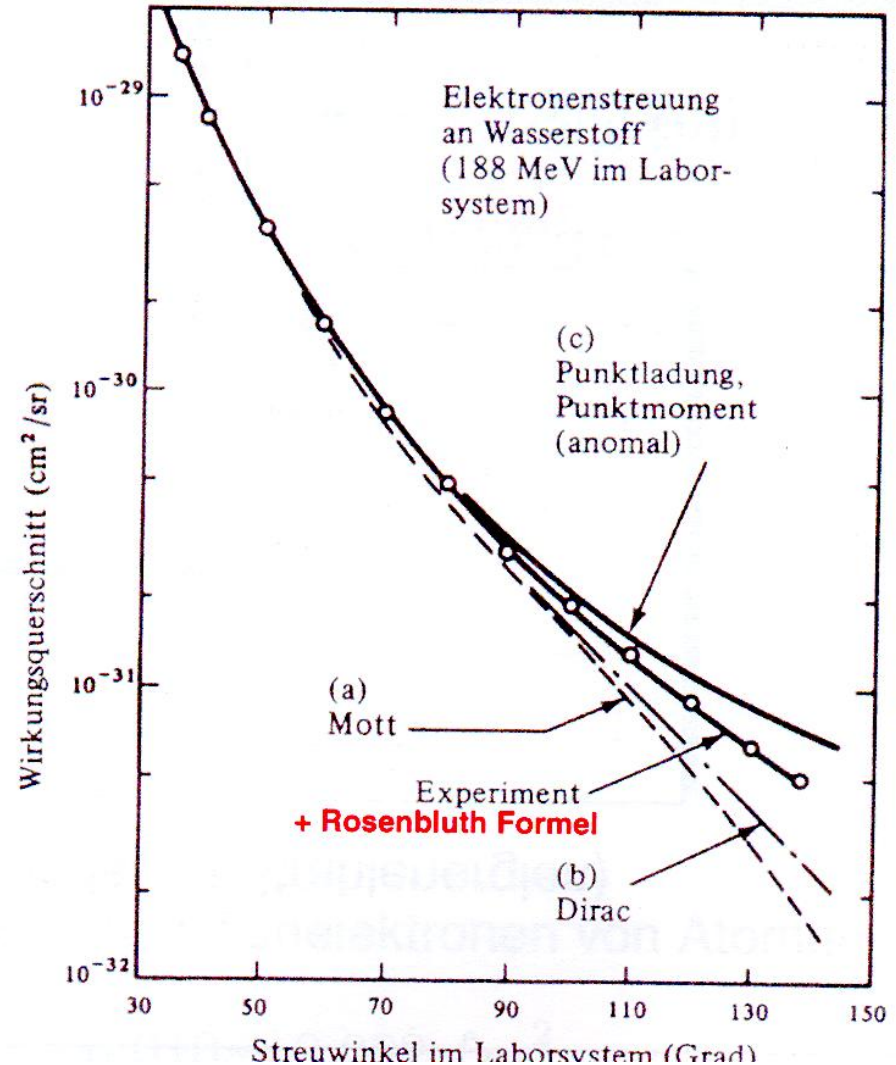


Fig-TP-4.7

Rosenbluth-Diagramm: elektrischer + magnetischer FF

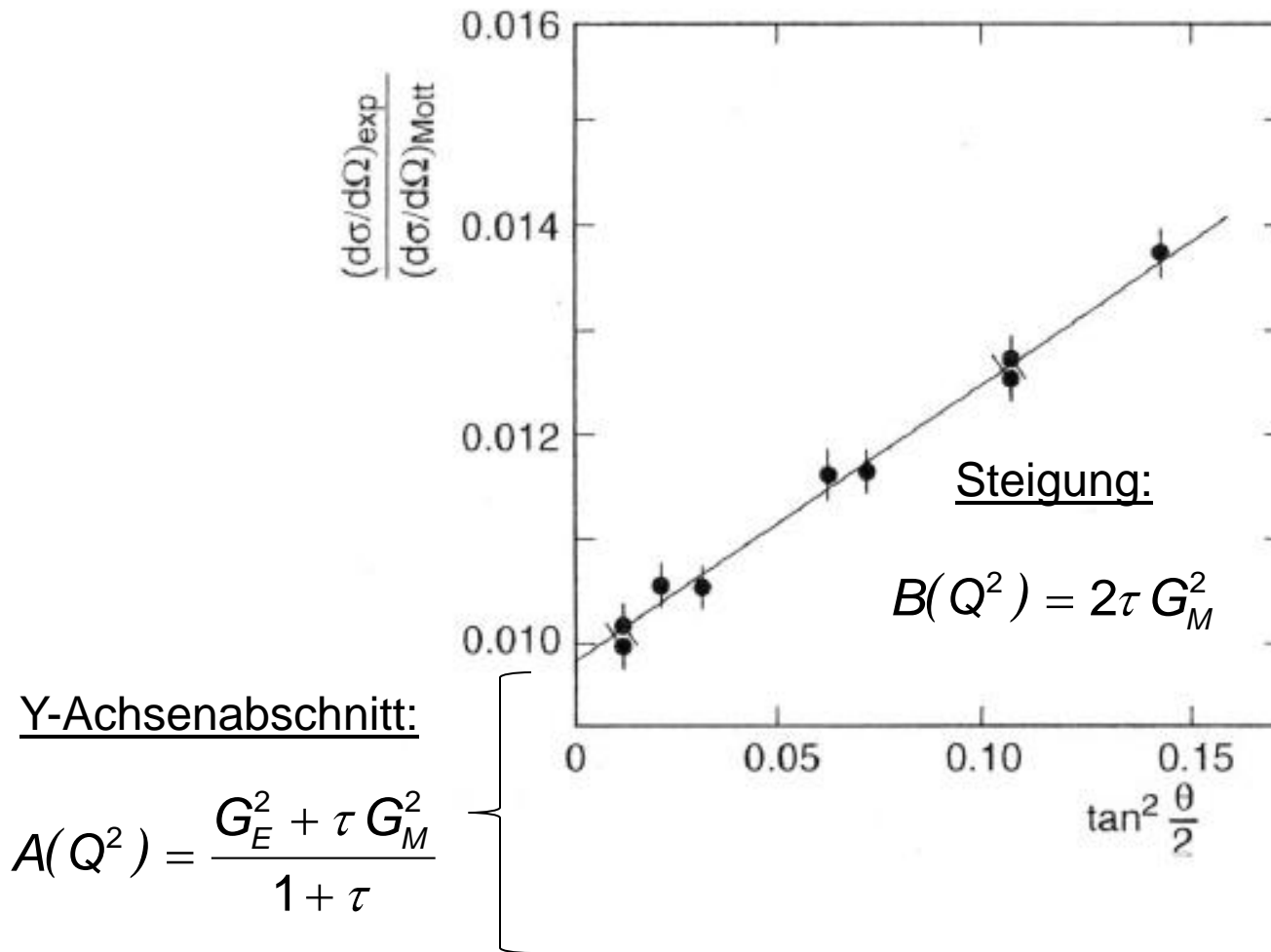


Fig-TP-4.8

Elektrischer und magnetischer Formfaktor

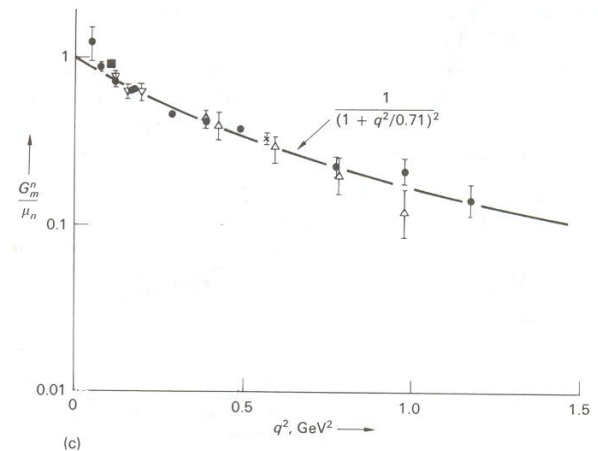
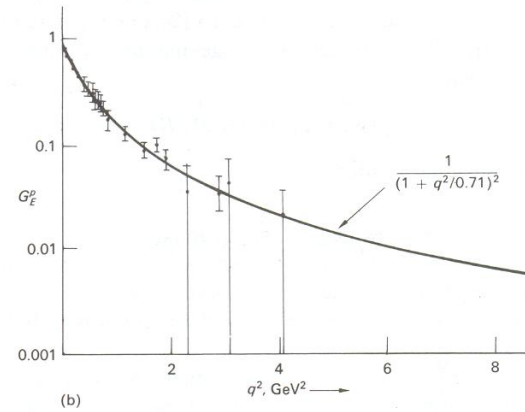
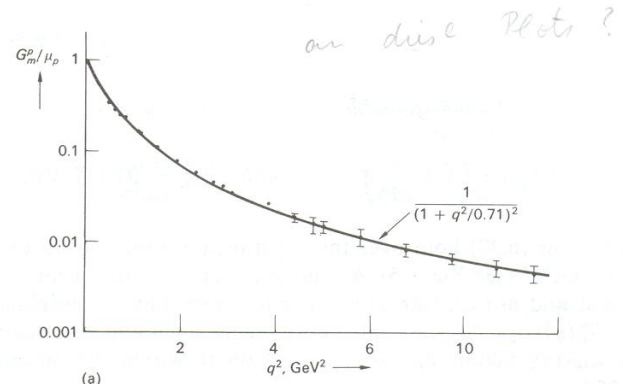
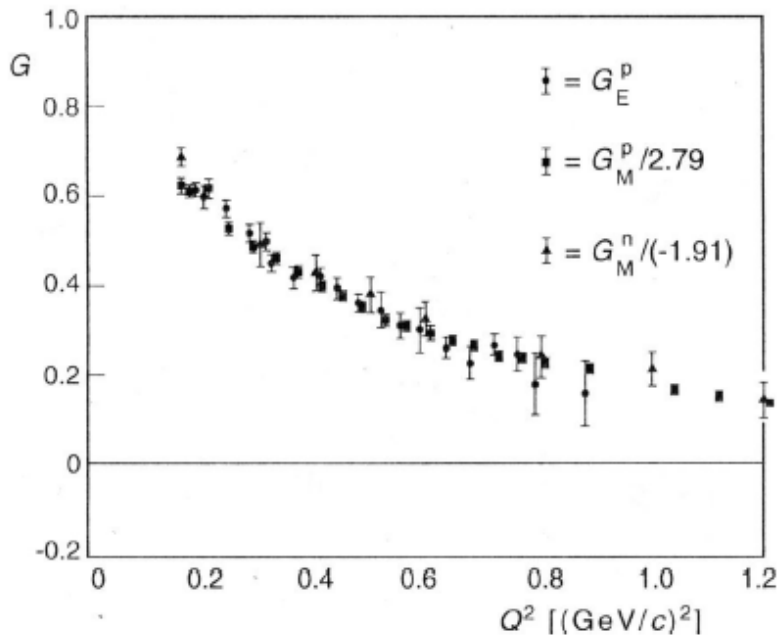
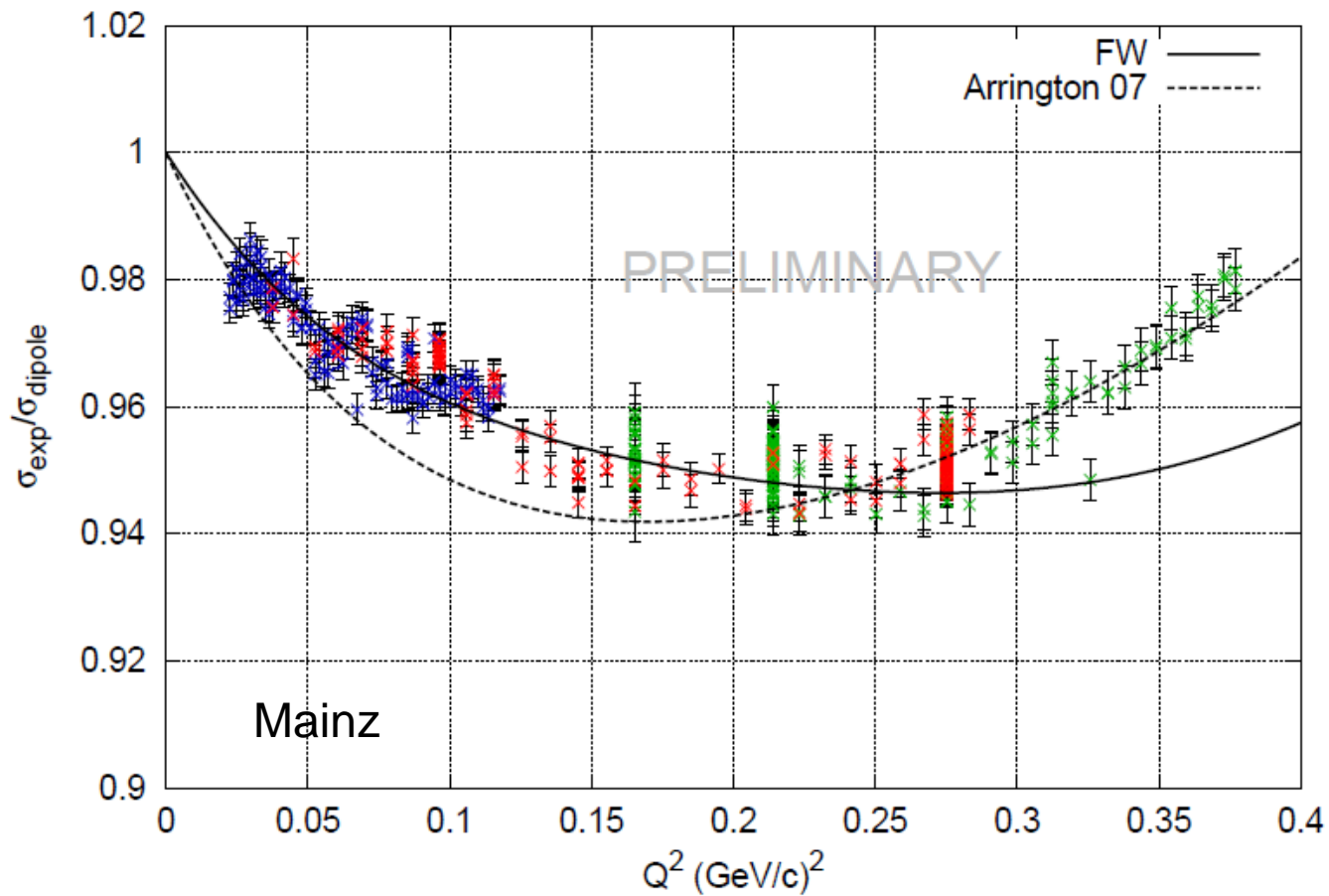


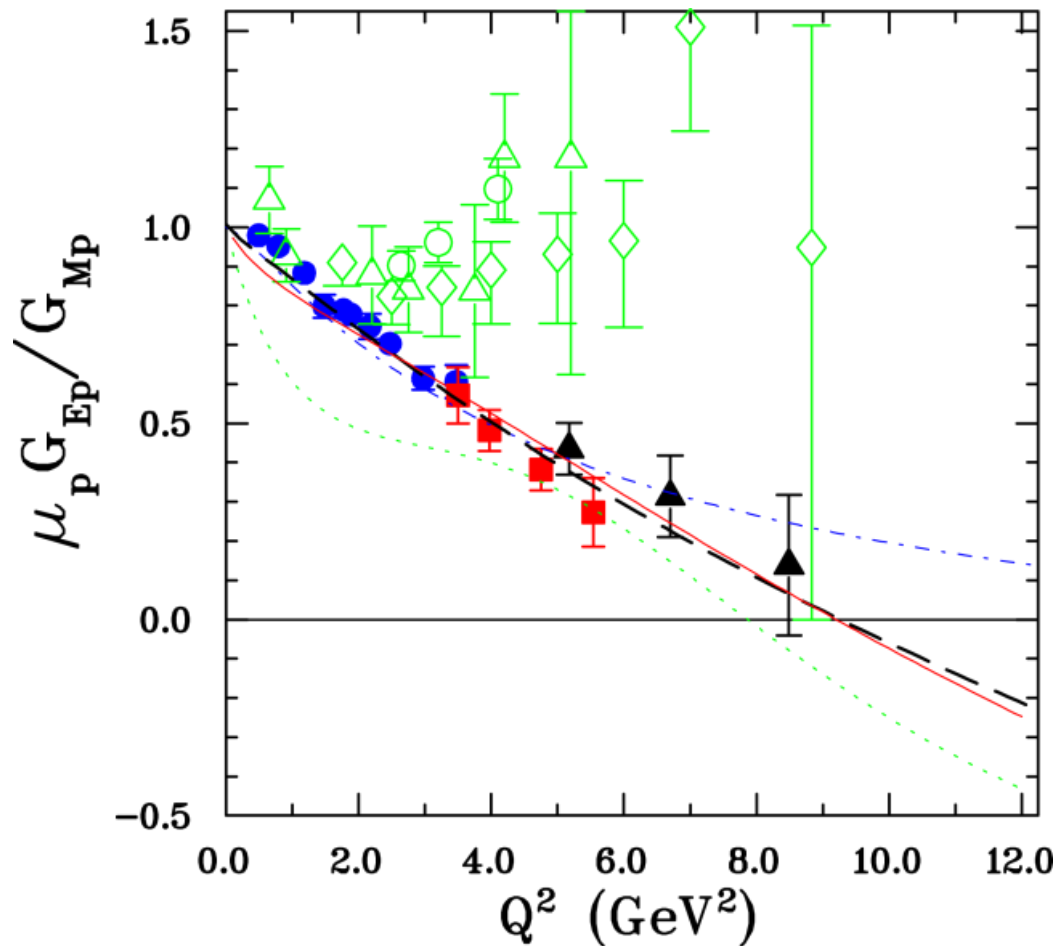
Fig-TP-4.9



Klare Abweichungen von der angenommenen Dipolform bereits bei kleinen Q^2 .

Neuere Resultate II

Fig-TP-4.9b



Für große Q^2 gibt es klare Abweichungen zwischen elektr. und magn. Formfaktor.