

17.30 Measurement of Parity Violation in Proton-Proton Scattering at the Bonn Isochronous Cyclotron*

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Parity violation in the nucleon-nucleon interactions is at present the only means to study flavour-non-changing hadronic weak interactions experimentally. Since the experimental errors could be reduced significantly to the 10^{-8} level at an energy of 45 MeV, a second measurement in the low energy range with comparable precision is desirable.

At 13.6 MeV the longitudinal analyzing power A_z has been measured in Bonn. The final result is: $A_z = (-0.93 \pm 0.20 \pm 0.05) \cdot 10^{-7}$. The first error is due to statistics and corrections, whereas the second error term gives the upper limit of additional error contributions.

The experimental setup, sources of systematic errors and methods of error detection, reduction and correction will be discussed.

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