

Polarized target material developments at Bonn and Bochum

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There is a long tradition on Polarized Solid Targets at the Bonn university starting already in the late 1960s with first target asymmetry experiments at the former Bonn 2.5 GeV synchrotron done by Wolfgang Paul, Karl-Heinz Althoff and coworkers. An early milestone set in the field of polarizable solid target materials was the invention of irradiated d-ammonia in the early 1980s by Werner Meyer. In the subsequent years the preparation process as well as the polarization behaviour of this material were further optimized. In 1995 the target material expertise moved to Bochum when Werner Meyer joined the Ruhr-University as a professor. Under his leadership the target material lithium deuteride was further developed with the result of the preparation of about one liter highly polarizable material for the COMPASS ΔG program at CERN in the year 2000. These investigations opened up new insights into the role of paramagnetic centers in the dynamic nuclear polarization process. As a result several new developments were initiated like the trityl doped alcohols and diols as well as irradiated hydrocarbons. Investigations into the very promising materials polyethylene and polypropylene are still ongoing at the accelerator facilities of the Bonn university.

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