

NP PROGRAM AT ANKE-COSY AND FIRST RESULTS FROM DOUBLE POLARISED EXPERIMENT

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The understanding of the NN interaction is fundamental to the whole of nuclear and hadronic physics. The scattering amplitudes for the complete description of NN interactions can be reconstructed from phase-shift analysis (PSA), which requires measurements with polarised beam and polarised target. Experiments at COSY, using a polarised deuteron beam or target, can lead to significant improvements of neutron-proton data base through the study of quasi-free reactions on the neutron in the deuteron. Such a measurement has already been started at ANKE by using polarised deuterons on an unpolarised target to study the $dp \rightarrow \{pp\}n$ deuteron charge-exchange reaction and the full program with a polarised storage cell target has been conducted. At low excitation energies of the final pp system, the spin observables are directly related to the spin dependent parts of the neutron-proton charge-exchange amplitudes. Our measurement of the deuteron-proton spin correlations will allow us to determine the relative phases of these amplitudes in addition to their overall magnitudes. This contribution will present a preliminary results from the first double polarised experiment at ANKE-COSY.