

SPIN EFFECTS IN NUCLEON-NUCLEON ELASTIC SCATTERING

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Three papers involving spin effects in high momentum transfer nucleon-nucleon elastic scattering are briefly summarized.

POLARIZATION IN LARGE ANGLE PROTON-NEUTRON ELASTIC SCATTERING*

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The authors have measured the large angle polarization asymmetry A in the proton-neutron elastic scattering at 2,3, and 6 GeV/c using the polarized proton beam at the Argonne ZGS and a liquid deuterium target. These measurements, the first at high energy, show that A is large (20-40%) and negative at the larger angles, larger and opposite sign to pp scattering, and with no decrease with incident energy, unlike the earlier data at smaller angles. At 90°CM , where A for pp is constrained to be zero because of particle identity, the np asymmetry is increasing with energy, reaching approximately $-.3$ at 6 GeV/c, in conflict with the basic constituent interchange model which predicts A for np scattering to be 0 at 90°CM .

*Work supported in part by the U.S. Department of Energy and by the Graduate School of the University of Minnesota.

SPIN-SPIN FORCES IN 6 GeV/c NEUTRON-PROTON ELASTIC SCATTERING
ENERGY DEPENDENCE OF SPIN-SPIN EFFECTS IN p-p ELASTIC SCATTERING
AT 90°CM

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