

Abstract Submitted  
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**Influence of the N\*1440 and N\*1535 Resonances in Intermediate Energy pp and np Scattering**<sup>1</sup> CH. ELSTER, Ohio U., A. SCHWICK, U. Tübingen, A. GARDESTIG, U. South Carolina, F. HINTERBERGER, U. Bonn, EDDA COLLABORATION — Recent precision measurements of pp spin correlation observables up to 2.5 GeV projectile energy rekindled interest in comparing available models of the NN interaction to those data. It is well known that the Delta resonance plays a dominant role in the energy region between pion production threshold and roughly 1 GeV, and is incorporated in all models of the NN interaction defined in this energy regime. It is natural to assume that when going higher in energy and leaving the regime of the Delta dominance, other low lying, distinct nucleon resonances may be important for a description of the data. Here we study the influence of the N\*1440 (decaying mostly to  $N\pi$ ) and the N\*1535 (decaying to  $N\pi$  and  $N\eta$ ) on pp and np observables. Though the overall contributions of both N\* resonances is much smaller than those of the Delta, they are quite visible in in T=0 channels close to pion threshold. A model for the NN interaction respecting unitarity and based on meson exchange and including the Delta, N\*1440, and N\*1535 resonances will be compared to np and pp data as well as phase-shift analyses for laboratory energies up to 1.3 GeV.

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