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A Regge Model for Nucleon-Nucleon Scattering Amplitudes WILLIAM FORD, Old Dominion University, J. WALLACE VAN ORDEN, Old Dominion and Jefferson Lab — We present a model to calculate nucleon-nucleon (NN) scattering amplitudes, at laboratory kinetic energies greater than 1.3 GeV. The model, based on Regge theory, is fully relativistic, and exhibits full spin dependence. We relate the Regge exchanges to the Fermi invariants, which gives an organized and simplified method to incorporate Regge exchanges into the NN scattering. An added benefit is that all spin dependence is explicitly dealt with. The parameters in the model are from the Regge trajectories, which are obtained from the meson spectrum, and the residues. We employ phenomenological residues, which we determine by fitting our model to total and differential cross section data, and the SAID helicity amplitudes. Preliminary results are presented.

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