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Nucleon-Nucleon Interaction above 1 GeV EHAB MARJI, W. Kentucky Community and Technical College/ University of Idaho, RUPRECHT MACHLEIDT, University of Idaho — A summary of the work by Eyser, Machleidt, and Scobel [Eur. Phys. J. A 22, 105 (2004)] on nucleon-nucleon (NN) scattering above 1 GeV will be presented. Motivated by the recent measurements of proton-proton spin-correlation parameters up to 2.5 GeV laboratory energy at COSY (Juelich, Germany), Eyser et al. investigated models for NN scattering above 1 GeV. Signatures for a gradual failure of the traditional meson model with increasing energy were clearly identified. Since spin effects are large up to tens of GeV, perturbative QCD cannot be invoked to fix the problems. Various theoretical scenarios are discussed, however, the conclusion is that, at this time, we have neither a phenomenological nor a theoretical understanding of the spin dependence of the NN interaction above 1 GeV.

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