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Microscopic approach to scattering states in ^{5}He[1] HARTMUT M. HOFMANN, University of Erlangen, GERALD M. HALE, Los Alamos National Laboratory — In the framework of the resonating group model we study scattering states in ^{5}He using realistic two- and three-nucleon forces. We allow for α - neutron and triton - deuteron channels with relative angular momenta up to L = 2. The coupling to the first excited state of the α particle is also taken into account. We compare the results of the calculations to those of a comprehensive R-matrix analysis partial wave by partial wave. The agreement for the S-waves is very good. The calculated P-wave phase shifts do not yet reach the data. Preliminary results indicate the importance of internal D-waves inside the deuteron. The D-wave results are still in progress. We discuss the effects of the NNN-force and the coupling to the α^* - neutron channel.

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