Abstract Submitted
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Faddeev calculation for breakup neutron-deuteron scattering at 14.1 MeV lab energy[1] VLADIMIR SUSLOV, Department of Physics, North Carolina Central University, Durham, NC, US, MIKHAIL BRAUN, Department of Theoretical Physics, Saint-Petersburg State University, Russia, IGOR FILIKHIN, Department of Physics, North Carolina Central University, Durham, NC, US, IVO SLAUS, Rudjer Boskovic Institute, Zagreb, Croatia, BRANISLAV VLAHOVIC, Department of Physics, North Carolina Central University, Durham, NC, US — A new computational method for solving nucleon-deuteron breakup scattering problem has been applied to study inelastic neutron-deuteron scattering in the framework of configuration-space Faddeev-Noyes-Noble-Merkuriev equations. This method is based on the spline-decomposition in angular variable and on a generalization of the Numerov method for hyperradius. The Merkuriev-Gignoux-Laverne approach has been generalized for arbitrary nucleon-nucleon potentials and arbitrary number of partial waves. Neutron-deuteron observables at the incident nucleon energy 14.1 MeV have been calculated using the charge-independent Argonne AV14 nucleon-nucleon potential. Results have been compared with those of other authors and with experimental nucleon-deuteron scattering data.

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