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Neutron-deuteron inelastic scattering: numerical modelling and asymptotic conditions

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Abstract. Inelastic neutron-deuteron scattering is studied on the basis of configuration-space Faddeev equations. Calculated are neutron-deuteron breakup amplitudes using AV14 nucleon-nucleon potential at incident neutron energy of 14.1 MeV. The results are presented for the differential cross sections under quasi free scattering (QFS) and space-star (SST) configurations, and compared with those of the previous calculations and experimental data. The choice of the cutoff radius R_{cutoff} for asymptotic conditions is discussed.

Keywords: Few-body systems, Faddeev equation, Inelastic scattering

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