The general formalism for studying Nd scattering on the basis of configuration-space Faddeev equations[1] VLADIMIR SUSLOV, North Carolina Central University, MIKHAIL BRAUN, St.Petersburg State University, Russia, IGOR FILIKHIN, BRANISLAV VLAHOVIC, North Carolina Central University, IVO SLAUS, Rudjer Boskovic Institute, Croatia — The known configuration-space Faddeev equations for studying proton-deuteron scattering have been derived in the context of the isotopic formalism. However, in the presence of the Coulomb interaction the isotopic formalism becomes invalid in view of proton and neutron being different particles. Appropriate modifications have been done to derive new correct Faddeev equations to study the three-nucleon system. The s-wave calculations of the elastic and breakup amplitudes for n-d and p-d scattering at Elab=14.1 MeV are performed for the Malfliet-Tjon MT I-III and AV14 potentials. Results obtained for n-d and p-d scattering are compared with our predictions [1] and those of the Los-Alamos/Iowa group [2].

[1] V.M. Suslov and B. Vlahovic, Phys. Rev. C69, 044003 (2004)
[2] J.L. Friar, G.L. Payne, W. Glöckle, D. Hüber, and H. Witala, Phys Rev. C51, 2356 (1995)

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