DESCRIPTION OF A NEUTRON-DEUTERON SYSTEM ON THE BASIS OF THE BARGMANN REPRESENTATION OF S-MATRIX

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S u m m a r y

For the effective-range function $k\cot\delta$, we obtain a pole approximation that is optimal for the description of a neutron-deuteron system in the doublet spin state on the basis of the Bargmann representation of the S matrix. By using experimental values of the binding energy of a triton E_T, doublet scattering length a_2 and experimental van Oers–Seagrave phase shifts, we calculated the physical characteristics of a triton in the ground (T) and virtual (v) states: the virtual level energy $B_v = 0.608$ MeV and the dimensionless asymptotic normalizing constants $C_T^2 = 2.866$ and $C_v^2 = 0.0586$. The effective radii of a triton in the ground ($\rho_T = 1.711$ Fm) and virtual ($\rho_v = 74.184$ Fm) states are determined as well.