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## **SOLVING MULTICHANNEL SCHRÖDINGER EQUATION WITH REALISTIC TWO-BODY POTENTIALS USING RENORMALIZED NUMEROV METHOD**

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**ABSTRACT:** The renormalized Numerov method is employed to solve multichannel Schrödinger equation containing realistic two-body interaction of the Reid's soft core potentials. The binding energy and the coupled wave functions of Deuteron system have been obtained with sufficiently high accuracy. The phase parameters of any spin and isospin of the realistic interaction can be extracted and compared to those derived directly from the experiment. We show that the method can be generalized and applied to solve any coupled-channel equations of the n-body system.

**KEYWORDS:** Numerov method, Schrödinger equation, n-body system.