UNISA college of science, engineering and technology

International symposium on New Developments in Methods and Applications of Few-body Physics: in Memory of Professor SA Sofianos

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Few-body integrodifferential equation on Lagrange-mesh

The two-variable integrodifferential equation for few-body systems is solved using the Lagrange-mesh method. The method transforms the equation into a system of algebraic equations that are solved as a non-symmetric matrix eigenvalue problem. Convergence properties of the solution in relation to the problem parameters is investigated. The accuracy of the converged solution is tested by calculating the binding energies and root-mean-square radii of selected few-body systems. The results are compared to those generated by other methods.

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