

Modified multiple shooting method for time independent Schroedinger equation

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New method is proposed for solving numerically time independent Schroedinger equation on a finite interval. In the modified multiple shooting method some extra parameters appear compared to standard multiple shooting. In particular these extra parameters are defined as constant coefficients of the equation on each subinterval and these coefficients are found together with eigenvalue and eigenfunction by iterative procedure. Convergence of the modified multiple shooting method is studied.