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Review text:

Enormous success of Numerov's method (of algebraic order four) in solving the radial Schroedinger equations inspired its systematic improvements in the literature. Next step of this development is presented. Key merit of the new sophisticated explicit algorithm of order eight lies in the control of errors and periodicity. It is based on the phase-lag minimization using a direct higher-order check called "embedding".

Practical value of the new methodical improvement is well documented using the particular toy problem of the Lennard Jones phase shifts. Three figures show that in comparison with the four older methods by the second author et al the time of computation is still significantly reduced.