This is a review text file submitted electronically to MR.

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Review text:

The 1/N (I would rather call it the "large-angular-momentum") expansion technique is, according to the extensive literature, very popular approximate method of solving radial Schroedinger equations with the simplest potentials. Without any thorough attention paid to the previous studies and using just explicit computation of numerous examples the paper demonstrates that many 1/N series are merely asymptotic and, beyond certain order, wildly divergent.

   Unfortunately, no attempt is made to prove this observation. Many examples are examined instead. This (together with a rather trivial appendix on spherical harmonics) makes the text unnecessarily long. Still, the readers should not miss the wicked linear-interaction example of Figures 4 and 5 where an "apparent convergence" is shown to take place between the tenth and twentieth order of approximation.