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Short title: Solution of the Schrodinger equation for the Morse potential with an infinite barrier at long range.

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Review text:

In quantum chemistry, one-dimensional Schroedinger equation with Morse potential is of paramount interest since it plays the role of a popular phenomenological model describing certain important molecular excitations. For this reason the authors return to this model (which is exactly solvable) and modify the underlying mathematics (motivated, e.g., by certain time-dependent applications) by adding a remote impenetrable barrier to the potential. Several interesting consequences (e.g., for an externally driven motion of particles) of this trick are listed, some necessary related formulae are derived (especially for some currently needed matrix elements) and a few sample numerical calculations (e.g., of an escape of particles) are presented. Note added: the message delivered by the paper looks absurd before one reads the text and reveals that the title is a bit misleading.