

Erratum: Classical Outlook on the Electron Translation Factor Problem
[Phys. Rev. Lett. 80, 3029 (1998)]

Clara Illescas and A. Riera

[S0031-9007(98)06832-X]

The isotropic electron translation factor (ETF) $\exp(iU) = \exp(ivr^2/2R)$ obtained in our paper for the asymptotic electron flux in ionizing atomic collisions differs from plane-wave and switching-function types commonly employed in close-coupling calculations. However, we have been made aware [1] that our phrase “has hitherto never been considered in the literature,” overlooked some references. Probably, the first citation of an isotropic ETF is Ref. [2], although its form $U = \dot{R}r$ does not describe a uniform expansion. Our expression is very close to the *ansatz* $U = Rr^2/2R$, used in both the “advanced adiabatic theory” [3] and the Sturmian expansion method [4] to treat ionization. For capture, isotropic ETF has also been criticized [5]: While they cancel residual radial couplings in the $R \rightarrow \infty$ limit, they do not eliminate the residual rotational ones [6,7].

- [1] M. Pieksma and J.H. Macek (private communication).
- [2] W.R. Thorson, J. Chem. Phys. **42**, 3878 (1965).
- [3] T.P. Grozdanov and E.A. Solov'ev, Phys. Rev. A **42**, 2703 (1990).
- [4] S.Y. Ovchinnikov, J.H. Macek, and D.B. Khrebtukov, Phys. Rev. A **56**, 2872 (1997).
- [5] D.R. Bates and D. Sprevak, J. Phys. B **4**, L47 (1971).
- [6] A. Macías, A. Riera, and M. Yáñez, Phys. Rev. A **23**, 2941 (1981).
- [7] A. Macías and A. Riera, Phys. Rep. **92**, 299 (1982).