

Erratum: *R*-matrix calculation of antiproton capture by helium ions [Phys. Rev. A **76**, 042513 (2007)]

Kazuhiro Sakimoto

(Received 20 May 2010; published 24 June 2010)

DOI: [10.1103/PhysRevA.81.069903](https://doi.org/10.1103/PhysRevA.81.069903)

PACS number(s): 36.10.-k, 34.50.Lf, 34.80.Lx, 99.10.Cd

This article contains a typographical error in Eq. (1). The equation should read

$$\begin{aligned}\bar{p} + \text{He}^+ &\rightarrow \bar{p}\text{He}^{2+} + e \\ &\rightarrow (\bar{p}\text{He}^+)^{**} \rightarrow \bar{p}\text{He}^{2+} + e.\end{aligned}\quad (1)$$

Furthermore, in the calculation of this article, the phase choice of the associated Legendre functions was not consistent

with the conventional definition of the Clebsch-Gordan coefficients. As a result, some resonance profiles in Fig. 6 were wrong. The corrected figure is shown here. Although the details of the profiles become different, the qualitative arguments of this article (the presence of a huge number of resonances, the importance of these resonances for the capture, the defect of the adiabatic picture for the resonance identification, and the comparison with the QC calculation) are the same.

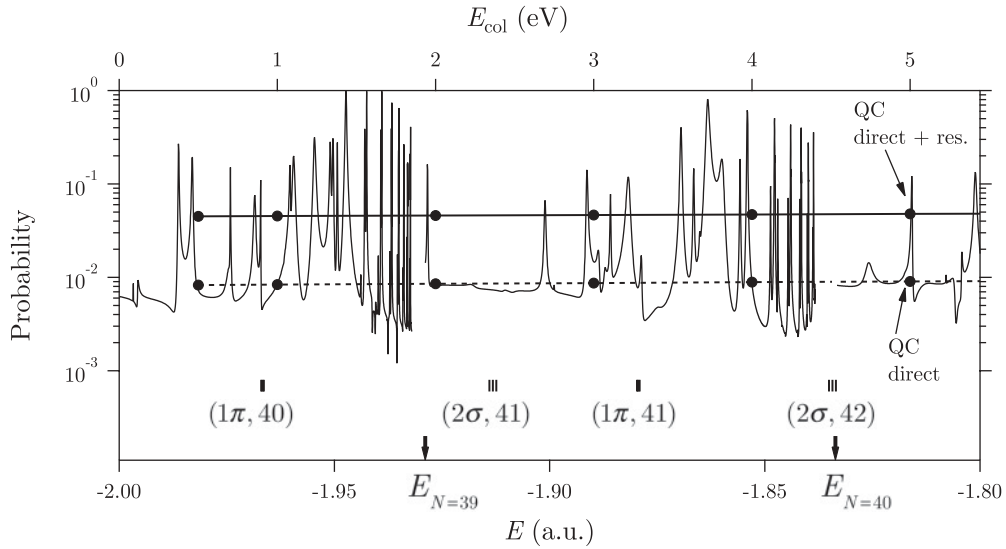


FIG. 6. Total capture probabilities P^{Jp} for $J = 30$ as a function of the total energy E (or the collision energy E_{col}). The vertical lines with an arrow indicate the $\bar{p}\text{He}^{2+}$ energies E_N for $N = 39$ and 40 . The other vertical lines indicate the energy levels supported by the 2σ and 1π effective adiabatic potential curves with the angular momenta of $L_{\text{res}} = 29, 30$, and 31 . The assignment number $N_{\text{res}} = 40 - 42$ is given by $N_{\text{res}} = v + L_{\text{res}} + 1$, with v being the vibrational quantum number. The results P_{dir}^{Jp} and $P_{\text{tot}}^{Jp} = P_{\text{dir}}^{Jp} + P_{\text{res}}^{Jp}$ calculated by using the QC method [1] are also shown.

[1] K. Sakimoto, *Phys. Rev. A* **74**, 022709 (2006).