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Erratum: Two- and three-charged-particle nuclear scattering in momentum space: A two-potential theory and a boundary condition model [Phys. Rev. C 73, 054001 (2006)]

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(i) A typographical error was found in the phrase above Eq. (26): "The relation between t matrix and K matrix is given by, for $p = p' = k$," should read "The relation between t matrix and K matrix is given by, for $p, p' \neq k$,".

(ii) Typographical errors occurred in Eqs. (126), (127), (128), (149), (150), and (151): The vector sign "→" is missing over the bra- and the ket-vectors; i.e., $\langle\alpha| \to \langle\vec{\alpha}|$ and $|\alpha\rangle \to |\vec{\alpha}\rangle$, etc. And also, in Eq. (A2), $\overline{\omega}^C_{\gamma\delta}$ should read $\overline{\omega}^C_{\alpha\gamma}$.

(iii) Superfluous suffixes occurred in some operators, a consequence of which is that a conceptual mistake could be inferred. Although, the products of LS operators were correctly presented without suffixes in Ref.[38], we wish to make clearer, in this article, the difference between the product of the three-body LS operators and that of the Faddeev operators by using suffixes (or the Jacobi channels: α, β, γ). For this purpose, we introduce "a matrix $\overset{\circ}{\delta}_{\alpha\beta}$" as the unit matrix element: $1 = \delta_{\alpha\beta} + \overline{\delta}_{\alpha\beta} \equiv \overset{\circ}{\delta}_{\alpha\beta}$.

a. Following Eq. (83), "where $\overline{\delta}_{\alpha\beta} = 1 - \delta_{\alpha\beta}$ is defined." Should be replaced by "where $\overline{\delta}_{\alpha\beta} = 1 - \delta_{\alpha\beta}$ and $1 = \delta_{\alpha\beta} + \overline{\delta}_{\alpha\beta} \equiv \overset{\circ}{\delta}_{\alpha\beta}$ are defined."

b. The significance of this new notation is apparent in the following where we redefine ω, $\tilde{\omega}$, and $\tilde{T}$:

$$(77) \to T^{\phi}_{\alpha\beta} = V^{\phi}_{\alpha}\delta_{\alpha\beta} + \sum_{\gamma} V^{\phi}_{\alpha}\overset{\circ}{\delta}_{\alpha\gamma} G_0 T^{\phi}_{\gamma\beta}$$

$$(79) \to \equiv V^{\phi}_{\alpha}\omega^{\phi}_{\alpha\beta} \equiv \overline{\omega}^{\phi}_{\alpha\beta} V^{\phi}_{\beta}$$

$$(88) \to G^{\phi}_{\alpha\beta} = G_0\overset{\circ}{\delta}_{\alpha\beta} + \sum_{\gamma,\delta} G_0\overset{\circ}{\delta}_{\alpha\gamma} T^{\phi}_{\gamma\delta}\overset{\circ}{\delta}_{\delta\beta} G_0$$

$$\equiv G_0\overset{\circ}{\delta}_{\alpha\beta} + G_0\tilde{T}^{\phi}_{\alpha\beta} G_0$$

$$(89) \to G^{C}_{\alpha\beta} = G_0\overset{\circ}{\delta}_{\alpha\beta} + \sum_{\gamma,\delta} G_0\overset{\circ}{\delta}_{\alpha\gamma} T^{C}_{\gamma\delta}\overset{\circ}{\delta}_{\delta\beta} G_0$$

$$\equiv G_0\overset{\circ}{\delta}_{\alpha\beta} + G_0\tilde{T}^{C}_{\alpha\beta} G_0.$$

The last line of Eq. (91) should be replaced by

$$= T^R_\alpha\delta_{\alpha\beta} + \sum_{\eta,\sigma,\gamma} T^R_\alpha G_0\overset{\circ}{\delta}_{\alpha\eta} U^{\phi}_{\eta\sigma}\overset{\circ}{\delta}_{\sigma\gamma} G_0 T^R_{\gamma\beta}$$

$$+ \sum_{\gamma} T^R_\alpha G_0\left(G_0^{-1}\overline{\delta}_{\alpha\gamma} - T^{\phi}_{\alpha}\delta_{\alpha\gamma}\right) G_0 T^R_{\gamma\beta}$$

$$+ \sum_{\gamma,\eta} T^R_\alpha G_0\overset{\circ}{\delta}_{\alpha\eta} T^{\phi}_{\eta}\overset{\circ}{\delta}_{\eta\gamma} T^R_{\gamma\beta}.$$

Also, the following replacements should be made:

$$(92) \to \equiv V^R_\alpha\omega^R_{\alpha\beta} \equiv \overline{\omega}^R_{\alpha\beta} V^R_\beta$$

$$(112) \to G^C_{\alpha\beta} = \sum_{\gamma}\omega^C_{\alpha\gamma}\overset{\circ}{\delta}_{\gamma\beta} G_0 \equiv \tilde{\omega}^C_{\alpha\beta} G_0$$

$$= \sum_{\gamma} G_0\overset{\circ}{\delta}_{\alpha\gamma}\overline{\omega}^C_{\gamma\beta} \equiv G_0\overline{\tilde{\omega}}^C_{\alpha\beta}$$

$$(113) \to \overline{G}^H_\alpha\delta_{\alpha\beta} + G^H_{\alpha\beta}\overline{\delta}_{\alpha\beta} = G^C_{\alpha\gamma} T^0_{\gamma\delta} G^C_{\delta\beta}$$

$$+ \left(G^C_{\alpha\beta} - G^C_\alpha\right)\delta_{\alpha\beta} + G^C_{\alpha\beta}\overline{\delta}_{\alpha\beta}$$

$$= G_0\left\{G_0^{-1}\overline{\delta}_{\alpha\beta} + \left(\tilde{T}^C_{\alpha\beta} - T^C_\alpha\delta_{\alpha\beta}\right)\right.$$

$$\left. + \overline{\tilde{\omega}}^C_{\alpha\gamma} T^0_{\gamma\delta}\tilde{\omega}^C_{\delta\beta}\right\} G_0,$$

$$(116) \to u_{\alpha\beta}$$

$$= \left[G_0^{-1}\overline{\delta}_{\alpha\beta} + \left(\tilde{T}^C_{\alpha\beta} - T^C_\alpha\delta_{\alpha\beta}\right) + \overline{\tilde{\omega}}^C_{\alpha\eta} T^0_{\eta\delta}\tilde{\omega}^C_{\delta\beta}\right]$$

$$+ \left[G_0^{-1}\overline{\delta}_{\alpha\gamma} + \left(\tilde{T}^C_{\alpha\gamma} - T^C_\alpha\delta_{\alpha\gamma}\right) + \overline{\tilde{\omega}}^C_{\alpha\eta} T^0_{\eta\delta}\tilde{\omega}^C_{\delta\gamma}\right]$$

$$\times G_0 T_\gamma G_0 u_{\gamma\beta}.$$

c. In the same manner, in Eqs. (125), (126), (127), (128), (A2), and (A14), the operators $\omega^C_{\alpha\beta}$, and $T^C_{\alpha\beta}$ should carry a tilde sign,that is, $T^C_{\alpha\beta} \to \tilde{T}^C_{\alpha\beta}$ and $\overline{\omega}^C_{\alpha\eta} T^0_{\eta\delta}\omega^C_{\delta\beta} \to \overline{\tilde{\omega}}^C_{\alpha\eta} T^0_{\eta\delta}\tilde{\omega}^C_{\delta\beta}$, using the new definitions (89) and (112).

(iv) In Eqs. (37) and (154), the second formula should be omitted, because the off-shell behavior of the Møller functions $\overline{\omega}^{\phi}_l, \omega^{\phi}_l, \overline{\Omega}^{\Phi}_\alpha$, and Ω^{Φ}_α cannot be replaced by the δ function in the integral, although Eq. (38) is correct outside of the integral.

