

# Erratum: “A Laguerre expansion method for the field particle portion in the linearized Coulomb collision operator” [Phys. Plasmas 22, 122503 (2015)]

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## Erratum: “A Laguerre expansion method for the field particle portion in the linearized Coulomb collision operator” [Phys. Plasmas 22, 122503 (2015)]

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In Ref. 1, Eqs. (20) and (21) for the second Legendre order  $l=2$  were incorrect. The correct integral formulas are

$$\int x_a^2 P_2(\xi) C_{ab}(f_{aM}, f_b) d^3\mathbf{v} = 16\pi^2 n_a \left(\frac{e_a e_b}{m_a}\right)^2 \ln \Lambda_{ab} \int_0^\infty \left[ \left(\frac{m_a}{m_b} + \frac{3}{2}\right) \left\{ \frac{3G(x_a)}{x_a} - \frac{2}{\sqrt{\pi}} \exp(-x_a^2) \right\} - x_a G(x_a) \right] \left( \int_{-1}^1 P_2(\xi) \bar{f}_b d\xi \right) x_a^2 dx_a, \quad (1)$$

and

$$\int x_a^2 L_1^{(5/2)}(x_a^2) P_2(\xi) C_{ab}(f_{aM}, f_b) d^3\mathbf{v} = 16\pi^2 n_a \left(\frac{e_a e_b}{m_a}\right)^2 \ln \Lambda_{ab} \int_0^\infty \left[ 4 \left(1 + \frac{m_a}{m_b}\right) \frac{x_a^2}{\sqrt{\pi}} \exp(-x_a^2) - 3 \left\{ \frac{3G(x_a)}{x_a} - \frac{2}{\sqrt{\pi}} \exp(-x_a^2) \right\} \right] \left( \int_{-1}^1 P_2(\xi) \bar{f}_b d\xi \right) x_a^2 dx_a, \quad (2)$$

that satisfy the symmetric relation

$$\int x_a^2 L_1^{(5/2)}(x_a^2) P_2(\xi) C_{ab}(f_{aM}, x_b^2 P_2(\xi) f_{bM}) d^3\mathbf{v} = \int x_b^2 P_2(\xi) C_{ba}(f_{bM}, x_a^2 L_1^{(5/2)}(x_a^2) P_2(\xi) f_{aM}) d^3\mathbf{v} = \frac{9n_a m_a}{5\tau_{ab} m_b} \left(1 + \frac{m_a}{m_b}\right)^{-5/2}, \quad (3)$$

of the Braginskii's matrix elements for thermal-thermal collisions with  $T_a = T_b$  due to the self-adjoint property.

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<sup>1</sup>S. Nishimura, *Phys. Plasmas* **22**, 122503 (2015).

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