ERRATA

Erratum: Joint probability distribution for Stark-broadening calculations [Phys. Rev. A 34, 4091 (1986)]

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[S1063-651X(98)04804-1]

PACS number(s): 52.25.−b, 34.20.−b, 99.10.+g

In plasmas, the emitting atoms and ions are under the influence of electric fields caused by electrons and ions [1,2]. The mean distance r_0 between ions is defined by [1,2]

$$(4\pi/3)r_0^3 n = 1 \tag{1}$$

and not

$$4\pi n r_0^3 = 1$$

as I have given in my paper. In the above equations, n stands for the ion density.

In Eq. (9), I should have ar_2/r_0, and not ar_2, because the argument of the exponential must be dimensionless.

Finally, the units for $Q(r,E)$ are 0.01 ε_0^{-3} and not 0.01 $(r_0\varepsilon_0)^{-3}$. This is obvious from Eq. (4) by taking $A(\mathbf{r},\mathbf{E})=1$. However, it should be emphasized that the noted errors have no effect on my calculations since they were carried out with units such that $\epsilon=1$ and $r_0=1$.

I wish to acknowledge Ilunga S. K. Mwana Umbela for pointing out these errors.

[1] Hans. R. Griem, *Spectral Line Broadening by Plasmas* (Academic, New York, 1974).
[2] Hans R. Griem, *Plasma Spectroscopy* (McGraw-Hill Book Company, New York, 1964).

1063-651X/98/57(6)/7365(1)/$15.00

Erratum: Dilute gas Couette flow: Theory and molecular-dynamics simulation [Phys. Rev. E 56, 489 (1997)]

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[S1063-651X(98)07006-8]

PACS number(s): 05.20.Dd, 47.50.+d, 51.10.+y, 99.10.+g

Due to a mistake in a coefficient in one of our Maple three-dimensional routines, the expressions in the Appendix of the original article are wrong. The correct expressions are given below. Exact expressions are simpler when expressed in terms of $\gamma_s \equiv \frac{2}{5}\gamma$, where $\gamma = \tau v_x(z)'$ and $\tau = 5\sqrt{mT(z)/\pi}/(16\sigma^2 p)$. The hydrostatic pressure, like the adimensional shear rate γ, is uniform and, $p = P_{zz} - \frac{6}{5}\gamma P_{xz}$. Series expansions are in terms of γ itself. The expression $\Delta_3 = \sqrt{1+29\gamma_s^2 - 54\gamma_s^4}$ appears everywhere:

$$\frac{\eta}{\eta_0} = \frac{2}{1+18\gamma_s^2+\Delta_3}$$

$$= 1 - \frac{13}{5}\gamma^2 + \frac{5282}{625}\gamma^4 + \cdots, \tag{1}$$

$$\frac{P_{xz}}{P_{zz}}=\frac{-5\gamma_s}{1+3\gamma_s^2+\Delta_3}$$
$$=-\gamma+\frac{7}{5}\gamma^3-\frac{2282}{625}\gamma^5+\cdots, \tag{2}$$

$$\frac{k_{xz}}{k_0}=\frac{-\frac{35}{2}\gamma_s(1-\frac{9}{5}\gamma_s^2)}{1+\frac{15}{2}\gamma_s^2+(1-\frac{63}{4}\gamma_s^2)\Delta_3}$$
$$=-\frac{7}{2}\gamma+\frac{1379}{500}\gamma^3-\frac{87\,647}{5000}\gamma^5+\cdots, \tag{3}$$

$$\frac{k_{zz}}{k_0}=\frac{4}{1-54\gamma_s^2+3\Delta_3}$$
$$=1+\frac{21}{50}\gamma^2+\frac{6783}{2500}\gamma^4+\cdots, \tag{4}$$

$$\frac{q_x}{\gamma q_z}=-\frac{7-\frac{63}{5}\gamma_s^2}{1-3\gamma_s^2+\Delta_3}$$
$$=-\frac{7}{2}+\frac{1057}{250}\gamma^2-\frac{30\,653}{3125}\gamma^4+\cdots\ . \tag{5}$$

The differential equation for the temperature profile $T(z)$ has the same form [Eq. (25)] as in the two-dimensional case except that instead of the constant K now appears K_3,

$$K_3=\frac{\frac{64}{15}(8-63\gamma_s^2)(1+54\gamma_s^2)^2\gamma_s^2}{1+\frac{927}{14}\gamma_s^2+\frac{40\,689}{14}\gamma_s^4-3645\gamma_s^6+(1+\frac{891}{7}\gamma_s^2+486\gamma_s^4)\Delta_3}\pi\sigma^4P_{zz}^2. \tag{6}$$

In the following expressions appear $f(\gamma)$, which we define so that $\sqrt{2K_3}=f(\gamma)\sigma^2P_{zz}$.

When the differential equation for $T(z)$ is integrated the value $T_{\max}$ at the center of the channel is introduced exactly as in Eq. (26) of the original paper, with K replaced by K_3. The boundary and integral conditions render three conditions relating the constants P_{zz}, γ, and $T_{\max}$ with the parameters externally imposed on the system like v_0, T_0, the number density N_{xy} of particles per unit area (in the Z direction), etc., and the parameters of the system like σ, L_z. The results are

$$\sqrt{T_{\max}-T_0}=\frac{5v_0}{32\gamma}\sqrt{\frac{m}{\pi}}\frac{f(\gamma)P_{zz}}{p}, \tag{7}$$

$$P_{zz}=\frac{2}{\sigma^2L_zf(\gamma)}\left(T_0\sqrt{\frac{T_{\max}-T_0}{T_0}}+T_{\max}\arctan\sqrt{\frac{T_{\max}-T_0}{T_0}}\right), \tag{8}$$

$$N_{xy}\sqrt{T_{\max}-T_0}=\frac{5v_0}{16\sigma^2\gamma}\sqrt{\frac{m}{\pi}}\arccos\left(\frac{2T_0-T_{\max}}{T_{\max}}\right). \tag{9}$$

We thank V. Garzó for pointing out that there was something wrong with our Appendix.