

## Erratum: Lowfrequency instabilities in the highpressure regime of Penning discharges

S. K. Guharya, S. N. SenGupta, and M. R. Gupta

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**Erratum: Low-frequency instabilities in the high-pressure regime of Penning discharges**

[J. Appl. Phys. 49, 5809 (1978)]

S. K. Guharay and S. N. SenGupta  
Saha Institute of Nuclear Physics, Calcutta-700009, India

M. R. Gupta  
Centre of Advanced Studies in Applied Mathematics, Calcutta University, Calcutta-700009, India

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Equations (7), (17), and (19) should read

$$nv_{e\perp} = -D_{e\perp} \nabla_{\perp} n + nb_{e\perp} \nabla_{\perp} V - D_{e\perp} \alpha_e (\hat{b} \times \nabla n)_{\perp} + nb_{e\perp} \alpha_e (\hat{b} \times \nabla V)_{\perp} + (nb_{e\perp}/2e) \nabla_{\perp} T_e - (nb_{e\perp}/e) \alpha_e (\hat{b} \times \nabla T_e)_{\perp}, \quad (7)$$

$$\begin{aligned} \omega = & \left[ \bar{Z} + \frac{\chi}{R} \frac{b_{e\perp}}{e} \frac{\partial \bar{T}_e}{\partial r} + \frac{\eta}{R} \left( \frac{\pi k R^2}{2\beta_{01}^2 L_z} \right)^2 \frac{b_e^2}{b_{i\perp}} \frac{\partial \bar{V}}{\partial r} - \bar{D}_e k^2 - \frac{\pi k^2 R^2}{2\beta_{01}^2 L_z} \frac{b_e^2}{b_{i\perp}} \frac{\partial \bar{V}}{\partial z} - \frac{\beta_{01}^2}{R^2} \right. \\ & \times (\bar{\phi}_e + \phi_i) b_{e\perp} - \left. \left( \frac{\pi k b_e R}{2\beta_{01} L_z b_{i\perp}} \right)^2 D_{i\perp} \right] + i \left[ \frac{\pi k}{2L_z} \frac{b_e}{b_{i\perp}} (\bar{D}_{e\perp} - D_{i\perp}) \right. \\ & \left. + \frac{\pi k b_e R}{2\beta_{01}^2 L_z} \left( \eta \frac{\partial \bar{V}}{\partial r} - \chi \frac{b_{e\perp}}{e b_{i\perp}} \frac{\partial \bar{T}_e}{\partial r} \right) - k b_e \frac{\partial \bar{V}}{\partial z} \right], \quad (17) \end{aligned}$$

$$\begin{aligned} \omega = & \frac{1}{A_1} \left\{ -\frac{\alpha_e b_{e\perp}}{\alpha_i} \{ [\eta + (1 + \alpha_i) m C_m] B_1 \} \frac{1}{R} \frac{\partial \bar{V}}{\partial r} + \frac{\chi}{R} \frac{b_{e\perp}}{e} (A_1 + B_1) \frac{\partial \bar{T}_e}{\partial r} - (A_1 + B_1) \bar{D}_e k^2 \right. \\ & \left. + \bar{Z} \left[ A_1 + \left( 1 - \frac{\alpha_e b_{e\perp}}{\alpha_i b_{i\perp}} \right) B_1 \right] + k b_e F_1 \frac{\partial \bar{V}}{\partial z} - \frac{\beta_{m1}^2}{R^2} \left[ A_1 + \left( 1 - \frac{\alpha_e \phi_i}{\alpha_i \phi_e} \right) B_1 \right] \bar{D}_{e\perp} \right\} \\ & + \frac{i}{A_1} \left( -(\eta b_{i\perp} F_1 + m \alpha_e b_{e\perp} A_1) \frac{1}{R} \frac{\partial \bar{V}}{\partial r} + \frac{\chi}{R} \frac{b_{e\perp}}{e} F_1 \frac{\partial \bar{T}_e}{\partial r} \right. \\ & \left. - F_1 \bar{D}_e k^2 - (A_1 + B_1) k b_e \frac{\partial \bar{V}}{\partial z} - \frac{\beta_{m1}^2}{R^2} F_1 (\bar{D}_{e\perp} - D_{i\perp}) \right). \quad (19) \end{aligned}$$

Furthermore,  $B_1$  in Eq. (15) should be

$$B_1 = \alpha_i b_{i\perp} \left( (\alpha_i b_{i\perp} - \alpha_e b_{e\perp}) + \frac{\pi k b_e R^2}{m \beta_{01} L_z} \right),$$

and the value of  $b_{i\perp}$  is  $9.37 \times 10^4 \text{ cm}^2/\text{V sec}$  instead of  $1.37 \times 10^4 \text{ cm}^2/\text{V sec}$  as appeared on p. 5814.