Electron Cyclotron Instability in a Spiraling Electron Beam-Plasma System

Errata

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Beam–Plasma System

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In page 4, line 28 and page 7, line 29, read integer for positive integer.

In the determinant (2. 6. 7) in page 5, read $-\frac{d}{dr} H_\iota^{(2)}(ik_2r) \mid _{r_1} x$ P(+) for $-\frac{d}{dr} H_\iota^{(2)}(ik_2r) \mid _{r_1} x$ P(−), $\frac{d}{dr} H_\iota^{(1)}(ik_2r) \mid _{r_2} x$ P(+) for $\frac{d}{dr} H_\iota^{(1)}(ik_2r) \mid _{r_2} x$ P(−), $\frac{d}{dr} H_\iota^{(2)}(ik_2r) \mid _{r_2} x$ P(+) for $\frac{d}{dr} H_\iota^{(2)}(ik_2r) \mid _{r_2} x$ P(−) and $-\frac{Q_\pm}{r_2} K_\iota(k_1r_2) -$ P(+) $\frac{d}{dr} K_\iota(k_1r) \mid _{r_2}$ for $-\frac{Q_\pm}{r_2} K_\iota(k_1r_2) -$ P(−) $\frac{d}{dr} K_\iota(k_1r) \mid _{r_2}$.

Correct equation for (2. 7. 1) in page 5 is

$$\tanh k_2 \Delta r = - \frac{\{-\frac{Q_\pm}{r_2} + k_1 P(-)\} \ P(+)k_2 + \{\frac{Q_\pm}{r_1} + k_1 P(-)\} \ P(+)k_2}{P(+)^2 k^2_2 + \{\frac{Q_\pm}{r_1} + k_1 P(-)\}}$$

Correct equation for (2. 7. 2) in page 5 is

$$\tanh k_2 \Delta r = - \frac{2k_1 k_2 P(+)P(-)}{k^2_1 P(-)^2 + k^2_2 P(+)^2}$$

For equation (2. 7. 4) in page 5 and (3. 2. 2) in page 8, add the following condition

$$-\frac{\pi}{2} < \text{Arg } k_1 < \frac{\pi}{2}$$

For equation (2. 7. 5) in page 5 and equation in page 9, line 1, add the following condition

$$-\frac{3\pi}{2} < \text{Arg } k_2 < \frac{\pi}{2}$$

Correct equation (2. 7. 7) in page 6 is

$$\tanh k_2 \Delta r = - \frac{2k_1 k_2}{k^2_1 + k^2_2}$$

In page 7, line 8 and 9, read $A_1 = A_r + iA_\phi$ for $A_1 \exp i\,(\omega t - 1\phi - kz) = A_r + iA_\phi$ and $A_2 = A_r - iA_\phi$ for $A_2 \exp i\,(\omega t - 1\phi - kz) = A_r - iA_\phi$.

In order to identify the wave whose vector potential rotates in the same sense as the rotation of electron in the magnetic field as the right circulary polarized wave in §3, reverse the direction of the magnetic field, i.e. substitute $- \omega_{ce}$ for ω_{ce} in the all equations.