# Errata

## Fundamentals of Plasma Physics and Controlled Fusion The third edition

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**v**: The 35th line from the top, Iternational→International
**p24**: Between the 1st and the 2nd lines, the following sentence should be added.
$\psi(r,z)$ is called *magnetic flux function.*
**p33**: The equation (3.51) →

$$\frac{\Delta r}{\Delta t} = \frac{E_\varphi}{B_\mathrm{p}}. \tag{3.51}$$

**p53**: The magnetic surface $\psi$ in the 13th-14th lines → The magnetic flux function $\psi$
**p57**: The 11th-12th lines →
The curves $b = b_0$ are circles of radius $a = R_0(\sinh b_0)^{-1}$, centered at $r = R_0 \coth b_0,\ z = 0$.
The curves $\omega = \omega_0$ are also circles of radius $a = R_0(\sin\omega_0)^{-1}$ with the center at $r = 0$, $z = R_0 \cot\omega_0$.
**p109**: The 12th line from the bottom→
Since $w$ is about $r_\mathrm{p}/R_0$ and $\cdots$
**p113**: Reference [16] shoud be→
H. P. Furth, J. Killeen, M. N. Rosenbluth and B. Coppi: Plasma Phys and Contr. Nucl. Fusion **1**, 103 (1966) (Conf. Proceedings, Culham in 1965 IAEA Vienna)
**p118**: $\partial B/\partial t = \nabla \times \boldsymbol{E}$ in the 8th line from the bottom → $\partial \boldsymbol{B}/\partial t = -\nabla \times \boldsymbol{E} = 0$
**p167**: The equation between (14.1) and (14.2) →

$$\delta \boldsymbol{E}_\perp = -\gamma \boldsymbol{\xi} \times \boldsymbol{B}, \quad \delta \boldsymbol{E}_\parallel = 0, \quad \delta \boldsymbol{B} = \nabla \times (\boldsymbol{\xi} \times \boldsymbol{B}), \quad \mu_0 \delta \boldsymbol{j} = \nabla \times \delta \boldsymbol{B}.$$

**p182**: The equation in the 5th line from the top →

$$F_\mathrm{j} = n_\mathrm{j} \left(\frac{m_\mathrm{j}}{2\pi\kappa T_\mathrm{j}}\right)^{3/2} \exp\left(-\frac{m_\mathrm{j} v^2}{2\kappa T_\mathrm{j}}\right).$$

**p198**: the magnetic surface function $\psi = \cdots$ in the 13th line from the top → the magnetic flux function $\psi = \cdots$
**p199**: The 5th line from the bottom→

$$M\frac{\mathrm{d}^2(\Delta R)}{\mathrm{d}t^2} = 2\pi \frac{\partial R I_\mathrm{p}(B_z - B_\perp)}{\partial R}\Delta R \approx 2\pi R I_\mathrm{p} \frac{\partial (B_z - B_\perp)}{\partial R}\Delta R$$

$$= 2\pi I_\mathrm{p} B_z \left(-n + 1 - \frac{R}{I_\mathrm{p}}\frac{\partial I_\mathrm{p}}{\partial R}\right).$$

**p290**: "accellerating" and "decellerating" in the 4th-11th lines should be replaced by "accelerating" and "decelerating"
**p298**: The equation in the last line →

$$\kappa T n \frac{\mathrm{d}s}{\mathrm{d}t} = \kappa T \left(\frac{\partial (ns)}{\partial t} + \nabla \cdot (ns\langle \boldsymbol{v} \rangle)\right) = -\nabla \cdot \boldsymbol{q} - \sum_{i,j} \Pi_{ij} \frac{\partial \langle v_i \rangle}{\partial x_j} + Q. \tag{A.20}$$

**p315**: The equation in the 2nd line from the top →

$$Z_\mathrm{p}(\zeta) = -2\exp(-\zeta^2) \int_{+i\infty}^{\zeta} \exp(t^2)\mathrm{d}t = i\pi^{1/2}\exp(-\zeta^2) - 2S(\zeta)$$

**p347**: Index; Negative shear 8. 16.7, 16.9d → Negative shear 8. 16.7, 16.8d