

Errata of the book Weber's Electrodynamics, A. K. T. Assis (Kluwer Academic Publishers, Dordrecht, 1994), ISBN: 0-7923-3137-0.

I thank Arthur Baraov for one of these corrections.

- Page 58, the last but one line should read:

$\vec{a}_j(\vec{r}_j', \vec{v}_j'$ and $\vec{a}_j')$. In general $\vec{r}_j = x_j \hat{x} + y_j \hat{y} + z_j \hat{z}$ and $\vec{r}_j' = x_j' \hat{x}' + y_j' \hat{y}' + z_j' \hat{z}'$, etc.

- Page 66, Equation (3.40) should read:

$$\frac{dE}{dt} = \frac{dT}{dt} + \frac{dU}{dt} = (\vec{v}_i \cdot \vec{F}_{ji} + \vec{v}_j \cdot \vec{F}_{ij}) - \dot{r}_{ij} \left[\frac{q_i q_j}{4\pi\epsilon_0 r_{ij}^2} \left(1 - \frac{\dot{r}_{ij}^2}{2c^2} + \frac{r_{ij} \ddot{r}_{ij}}{c^2} \right) \right]$$

- Page 84, Equation (4.16) should read:

$$d^2 \vec{F}_{ji} = \frac{dq_i dq_j}{4\pi\epsilon_0} \frac{\hat{r}_{ij}}{r_{ij}^2} \left[1 + \frac{1}{c^2} \left(\vec{v}_{ij} \cdot \vec{v}_{ij} - \frac{3}{2} (\hat{r}_{ij} \cdot \vec{v}_{ij})^2 + \vec{r}_{ij} \cdot \vec{a}_{ij} \right) \right]$$

- Page 85, first line of Equation (4.19) should read

$$\frac{dq_{i+} dq_{j+}}{4\pi\epsilon_0} \frac{\hat{r}_{ij}}{r_{ij}^2} \frac{1}{c^2} \left[(v_{i+}^2 - 2\vec{v}_{i+} \cdot \vec{v}_{j+} + v_{j+}^2) - (v_{i-}^2 - 2\vec{v}_{i-} \cdot \vec{v}_{j+} + v_{j+}^2) \right]$$

- Page 85, first line of Equation (4.20) should read

$$-\frac{3}{2} \frac{dq_{i+} dq_{j+}}{4\pi\epsilon_0} \frac{\hat{r}_{ij}}{r_{ij}^2} \frac{1}{c^2} \left\{ [(\hat{r}_{ij} \cdot \vec{v}_{i+})^2 - 2(\hat{r}_{ij} \cdot \vec{v}_{i+})(\hat{r}_{ij} \cdot \vec{v}_{j+}) + (\hat{r}_{ij} \cdot \vec{v}_{j+})^2] \right\}$$

- Page 96, first line of Equation (4.49) should read

$$\frac{\mu_0}{4\pi} I_i I_j d\ell_i d\ell_j \left(2 \frac{x_j}{r_j^3} \frac{dz_j}{d\ell_j} - 3 \frac{x_j z_j}{r_j^4} \frac{dr_j}{d\ell_j} \right) = \frac{\mu_0}{4\pi} I_i I_j d\ell_i d\ell_j \left(\frac{d}{d\ell_j} \frac{x_j z_j}{r_j^3} + \frac{x_j}{r_j^3} \frac{dz_j}{d\ell_j} - \frac{z_j}{r_j^3} \frac{dx_j}{d\ell_j} \right)$$

- Page 163, Equation (6.31) should read:

$$\vec{F} = -q_1 \left[\frac{\mu_o I}{2\pi\rho_1} \left(\frac{x_1 v_{1z}}{\sqrt{x_1^2 + y_1^2}} \hat{x} + \frac{y_1 v_{1z}}{\sqrt{x_1^2 + y_1^2}} \hat{y} - \frac{x_1 v_{1x} + y_1 v_{1y}}{\sqrt{x_1^2 + y_1^2}} \hat{z} \right) \right] - q_1 \left(\frac{\lambda_{2+} V_D^2}{4\pi\epsilon_o c^2} \frac{x_1 \hat{x} + y_1 \hat{y}}{(x_1^2 + y_1^2)} \right).$$

- Page 166, Equation (6.36) should read:

$$\vec{F} \approx -q \frac{\mu_o I V_D a}{8\rho_1^2} \hat{\rho}_1, \quad \text{if} \quad \rho_1 \gg a.$$

- Page 186, Equation (7.11) should read

$$x_{A,B}^2 = 1 + \frac{\mu r_2 \alpha}{L^2} \left[1 \pm \sqrt{1 + \frac{2EL^2}{\mu \alpha^2}} \right]$$

- Page 194, last line of Equation (7.26) should read

$$\left. + \frac{2}{3} r(\vec{r} \times \vec{\omega}) + \frac{r}{3} (\vec{\omega} \cdot \vec{r}) \vec{\omega} + \frac{r^2 \omega^2}{6} \hat{r} - \frac{(\vec{r} \cdot \vec{\omega})^2}{2} \hat{r} + [\vec{r} \cdot (\vec{\omega} \times \vec{v})] \hat{r} + \frac{r}{3} \left(\vec{r} \times \frac{d\vec{\omega}}{dt} \right) \right\}$$

- Page 245, first line of Equation (B11) should read

$$\vec{F}_{12}^{Ritz} = -\frac{q_1 q_2}{4\pi\epsilon_o} \frac{1}{r_{12}^2} \left\{ \left[1 + \frac{3 - \lambda}{4} \frac{\vec{v}_{12} \cdot \vec{v}_{12}}{c^2} - \frac{3(1 - \lambda)}{4} \frac{\dot{r}_{12}^2}{c^2} + \frac{\vec{r}_{12} \cdot \vec{a}_1}{2c^2} \right] \hat{r}_{12} \right\}$$