

## Corrections to *Fundamentals of Electromagnetics with MATLAB, 1<sup>st</sup> Edition*

Page	Location	As printed	Corrected item
Throughout the book		$\phi$	$\phi$
24	Middle of page	$\mathbf{u}_r \cdot \mathbf{u}_y = \mathbf{u}_r \cdot \mathbf{u}_y = \dots$	$\mathbf{u}_r \cdot \mathbf{u}_y = \dots$
25	Equation 1.30	$d\mathbf{l} = d\rho\mathbf{u}_\rho + \rho \sin\theta d\theta\mathbf{u}_\theta + \rho d\phi\mathbf{u}_\phi$	$d\mathbf{l} = d\rho\mathbf{u}_\rho + \rho d\theta\mathbf{u}_\theta + \rho \sin\theta d\phi\mathbf{u}_\phi$
27	Last line	$\frac{x}{\sqrt{x^2 + y^2}}$	$\frac{y}{\sqrt{x^2 + y^2}}$
28	Line 4	$\frac{y}{\sqrt{x^2 + y^2}}$	$\frac{x}{\sqrt{x^2 + y^2}}$
29	Line 5 in Table 1-1	$\rho \sin\theta d\theta\mathbf{u}_\theta$	$\rho d\theta\mathbf{u}_\theta$
29	Line 6 in Table 1-1	$\rho d\phi\mathbf{u}_\phi$	$\rho \sin\theta d\phi\mathbf{u}_\phi$
32	Equation 1.38	$= 3 \frac{x^2}{2} \Big _1^4 + 16 \frac{y^2}{2} \Big _1^2 = \frac{93}{2}$	$\Delta W = \int_{(1,1)}^{(4,2)} \mathbf{F} \times d\mathbf{l} = 3 \frac{x^2}{2} \Big _1^4 + 16 \frac{y^2}{2} \Big _1^2 = \frac{93}{2}$
35	Line 7	$[\sin^2\phi \cos\phi - \dots]$	$[3 \sin^2\phi \cos\phi - \dots]$
47	Three lines from the bottom	$dx dy dz$	$dz dy dx$
51	Example 1-17	$\alpha = \omega$ constant	$\alpha =$ constant
51	Example 1-17	$\omega = \omega\mathbf{u}$	$\boldsymbol{\omega} = \omega\mathbf{u}$
52	Vertical labels in the figure	$[2 \ 1 \ 0 \ 1 \ 2]$	$[-2 \ -1 \ 0 \ 1 \ 2]$
52	Horizontal labels in the figure	$[6 \ 4 \ 2 \ 0 \ 2 \ 4 \ 6]$	$[-6 \ -4 \ -2 \ 0 \ 2 \ 4 \ 6]$
67	Problem 1-42	$2xy\mathbf{u}_y$	$x^2\mathbf{u}_y$
81	Line 1	on	of
81	Three lines above Eq. 2.12	Q	$\Delta Q$
100	Line 6	$V_{ab}$	$\Delta V_{ab}$

100	Equation above (2.54)		Upper limits of the integration should be interchanged
101	Fig. 2-12	a, b	b, a (interchanged)
104	Equation 2.60	$\mathbf{E} = \nabla V$	$\mathbf{E} = -\nabla V$
121	In the final line of the page	have been	are
125	On the final line	The bound surface polarization charge density $\rho_{ps}$ can be evaluated	The bound surface polarization charge density can be evaluated
125	Figure		Labels [(a), (b), (c), (d), (e)] added next to each item below circuit figure
132	Two lines from the bottom	on	of
133	Example 2-20	$I = \int_A \mathbf{J} \cdot d\mathbf{s} = \int_{y=1}^{y=2} \int_{z=1}^{z=2} 3y^2 z dz dy = \frac{3y^3 z^2}{6} \Big _{y=1, z=1}^{y=2, z=2}$ $= \frac{96-3}{6} = 15.5 \text{ A}$	$I = \int_A \mathbf{J} \cdot d\mathbf{s} = \int_{y=1}^{y=2} \int_{z=1}^{z=2} 3y^2 z dz dy = 3 \frac{y^3}{3} \Big _{y=1}^{y=2} \frac{z^2}{2} \Big _{z=1}^{z=2}$ $= 3 \frac{7 \times 3}{6} = 10.5 \text{ A}$
190	Problem 2-8, first line	but with opposite sign	and the same sign
195	Problem 2-34, the figure	(y, z, x)	(x, y, z)
201	Problem 2-64, the figure	extra solid horizontal line	should be dashed
202	Problem 2-66, the figure	extra solid horizontal line	should be dashed
202	Problem 2-68, the figure	extra solid horizontal line	should be dashed
202	Problem 2-70, the figure	extra solid horizontal line	should be dashed
223-224	(3.29), (3.32), & (3.34)	=	≈
227	Reword—3 lines above the Table	Applying the same analytical method is used in Example 3-3, we find for the exact solution the following explicit expression: $V(x) = 2x^2 + x$ .	Applying the same analytical method is used in Example 3-2, we find that the solution is $V(x) = 3x$ .

288	Two lines above Eq. 4.4	$\mathbf{B}(r, t) = \mathbf{B}$	$\mathbf{B}(\mathbf{r}, t) = \mathbf{B}$
288	One line above Eq. 4.4	$\mathbf{E}(r, t) = \mathbf{E}$	$\mathbf{E}(\mathbf{r}, t) = \mathbf{E}$
288	Four lines above Eq. 4.5	$\mathbf{E}(r, t) \equiv \mathbf{E}$	$\mathbf{E}(\mathbf{r}, t) \equiv \mathbf{E}$
288	Three lines above Eq. 4.5	$\mathbf{B}(r, t) \equiv \mathbf{B}$	$\mathbf{B}(\mathbf{r}, t) \equiv \mathbf{B}$
340	Example 5-3		The example ends with the equation for the velocity. “Waves are” should be separated from the example.
354	Three lines from the top	$z$	$z$
371	Example 5-18, first line	$E_y(z)$	$E_y$
373	Two lines from the bottom	magnetic (second time)	electric
376	Line 5 in Example 5-19	on	of
380	Line 4 below figure caption	$z$	$z$
436	Figure 6-7, horizontal axis labels		$[-\pi - \pi/2 \ 0 \ \pi/2 \ \pi]$
496	Two lines above Eq. 7-13	$[\mathbf{J}]$	$\mathbf{J}$
539	Line below Eq. 7-84	$kd \cos + \delta$	$kd \cos \theta + \delta$
557	Table: Spherical differential length	$\rho \sin \theta d\theta \mathbf{u}_\theta$	$\rho d\theta \mathbf{u}_\theta$
557	Table: Spherical differential length	$\rho d\phi \mathbf{u}_\phi$	$\rho \sin \theta d\phi \mathbf{u}_\phi$
593	2.8	$E_y$	$E_x$
613	4.12	sin	cos