

Final Errata to *Radar and Laser Cross Section Engineering*, Second Edition
(includes some non-critical formatting and grammar changes)

Location	Reads as:	Should read as:
p. 4, Eq. (1.10)	$f_c = (f_2 - f_1) / 2$	$f_c = (f_2 + f_1) / 2$
p. 6, Ex. 1.1	peak transmitter power = 200 kW $N_o = k_B T_e B$	peak transmitter power = 500 kW, $N_o = k_B T_s B$
p. 6, Fig. 1.6, label	$\frac{A\tau N_p}{2} \text{sinc}(n\omega_c\tau / 2)$	$\text{sinc}(n\omega_c\tau / 2)$
p. 19, Ex. 1.3 equations at top of page	The calculation for A should use $e = 0.55$ giving $b = 0.526$ m.	
Figs. 1.19 and 1.20	The calculations for the plots did not include the 5 dB loss, so the maximum range is 64 km instead of 46 km.	
p. 19, Ex. 1.3	Last paragraph, reference to Example 1.2 should reference Example 1.1	
p. 34, Pr. 1.1	The distance to the horizon in miles for standard atmospheric conditions is approximately $\sqrt{2h}$ (add bold text)	
p. 42, above Eq. (2.15)	...at the observation point due to the sources in an unbounded homogeneous medium can be expressed entirely... (add bold text)	
p. 47, Fig. 2.6	Magnetic image for PMC: $\rightarrow\rightarrow$	$\leftarrow\leftarrow$ (reverse direction)
p. 52, Eq. (2.41)	$-2e^{jkh}$	$2e^{jkh}$ (omit the leading – sign)
p. 53, Eqs. (2.44)–(2.46),	These four equations should have a – (negative) sign in front of them.	
p. 63, Fig. 2.22	$ E ^2 / E_o ^2$	$ E / E_o $
p. 64, after Eq. (2.78)	Add: whereas for Eq. (2.25) it is understood that E_r is ignored.	
p. 68, Fig. 2.27, axes labels	$y(n), x(m)$	$v(n), u(m)$
p. 81	Sentence above Eq. (2.146): new paragraph indent at “Now, consider ...”	
p. 83, above Eq. (2.149)	Brewster’s angle is ¹¹ (add reference 11)	
p. 86, Example 2.16	The coordinate system in Fig. 2.42 does not agree with the example. In the figure $y \rightarrow z, z \rightarrow x, x \rightarrow y, \theta$ measured from z	
p. 87, Fig. 2.43	Axis label: “MONOSTATIC ANGLE FROM NORMAL (DEGREES)”	
p. 88, add reference 11	R. E. Collin, <i>Field Theory of Guided Waves</i> , McGraw-Hill, 1960	
p. 90, Prob. 2.5	Part (c) “...in the y direction with length b and that the length of the plate in x is L .”	
p. 108, Eq. (3.55) and two places in Eq. (3.57)	$j\eta / k$	$j\eta / k^2$
p. 108, Eq. (3.56) in the integral limits	$(\Delta 2)$	$(\Delta / 2)$
p. 108, Eq. (3.60) in the integral limits	$-L$ to L	$-L / 2$ to $L / 2$
p. 110, Fig. 3.8	Symbols for “Triangles” and “Pulses” should be switched in the legend.	
p. 118, heading	3.6.3 Other Basic Functions	3.6.3 Other Basis Functions
p. 123, Ex. 3.4	... 250 MHz is due to a resonance condition for the wing.	... 270 MHz is due to a resonance condition for the fuselage.
p. 124, Fig. 3.21	Nose on RCS...	Broadside RCS...
p. 130, equation above Eq. (3.121)	$\approx -j \frac{\sigma f}{\omega}$	$= \epsilon_0 - j \frac{\sigma f}{\omega}$
p. 138, Fig. 3.31	Figure needs to be relabeled or redrawn	

Location	Reads as:	Should read as:
p. 139, Fig. 3.32	Update graphics with CST mesh plot	
p. 146, Prob. 3.10d	$g = k\hat{r} \cdot \vec{r}'$	$g = \hat{r} \cdot \vec{r}'$
p. 146, Prob. 3.11	\vec{W}_{12} (two places)	\vec{W}_1
p. 146, Prob. 3.13	edge (14)	edge (24)
p. 211, Example 4.6, Fig. 4.43 The bottom figure is a repeat of the top figure. The correct bottom figure is shown here. Specify: wingspan and length approximately 8 m, $f=300$ MHz, H pol, bistatic, $\phi_i = 0^\circ$		
p. 236, after Eq. (5.43)	$\alpha(\phi^\pm) = \dots$	$a(\phi^\pm) = \dots$
p. 272, Fig. 6.12	$\Omega = 2/\ln(2al)$	$\Omega = 2\ln(2l/a)$
p. 250	Add reference 20: G. Ruck, et al, <i>Radar Cross Section Handbook</i> , Plenum Press, 1970,	
p. 254, Prob. 5.10	Add citation: formulas are from reference 20	
p. 256, Prob. 5.14	... $\beta = 30$ deg at the edge and $a = 1$ m. Add part (b): repeat the calculation for incidence midway between the center and edge ($\beta = 15^\circ$).	
p. 271, Eq. (6.25)	$v^2/4R_a$	$v^2/8R_a$
p. 273, Ex. 6.5	Dimensions should be specified: $d_x = 0.5\lambda$, $d_y = 0.45\lambda$	
p. 313, Eq. (6.88)	$\cos^2 \theta$	$\cos \theta$
p. 323, Fig. 6.60	Legend: $\delta = 0.1\lambda$	$\delta = 0.05\lambda$
p. 324, Fig. 6.61	Legend: $N_x = 25, \delta = 0.1\lambda$	$N_x = 26, \delta = 0.05\lambda$
p. 327, Ref. 17	Monk	Munk
p. 331, Pr. 6.10	Fig. 6.57	Fig. 6.60
p. 348, above Eq. (7.25)	v / m^3	v / m^3 (add space before /)
p. 361, Fig. 7.22	Labels d and s in the figure should be interchanged. With reference to text below Eq. (7.40), d = ring spacing.	
p. 366, Ex. 7.9	0.1 mm, $\text{Re}[\mu_r] = 1$	0.1 m, $\text{Re}[\mu_r] = 1.103$
p. 371, 3 rd paragraph	...based the type of target...	...based on the type of target...
p. 376, Fig. 7.35	Arrows missing in circulators	
p. 387, Ref. 14	AP, No. 4	AP-11, No. 5
p. 393, Pr. 7.21	The PML of Problem...	For the PML of Problem...

Location	Reads as:	Should read as:
p. 406, Eq. (8.5)	$\sqrt{1 + \frac{2d \cos \phi}{R_o}} \approx R_o + d \cos \phi$	$\sqrt{1 + \frac{2d \cos \phi}{R_o}} \approx R_o + d \cos \phi$
p. 414, item 2) and in the footnote to Table 9.1	2) Radiant emittance: Also called excitance...	2) Radiant emittance: Also called exitance...
p. 415, Eq. (9.5)	$d\Phi$	$d^2\Phi$
p. 429, Fig. 9.22	DIFFUSE, $\sigma_s + \sigma_d$	TOTAL, $\sigma_p + \sigma_d$
p. 431, Eq. (9.54)	\mathcal{R}_d	\mathcal{R}_d^2
p. 433, Fig. 9.26	$\tau_1 \Gamma_2 E_o$	$\tau_1^2 \Gamma_2 E_o$
p. 434, top line	It should be noted that T and R are power coefficients.	
p. 434, Eq. (9.64)	$\frac{ E_T }{ E_0 } = \frac{\tau_1^2 \tau_2^2}{1 + \Gamma_1 \Gamma_2 - 2\Gamma_1 \Gamma_2 \cos \delta}$	$\frac{ E_T ^2}{ E_0 ^2} = \frac{\tau_1^2 \tau_2^2}{1 + \Gamma_1^2 \Gamma_2^2 - 2\Gamma_1 \Gamma_2 \cos \delta}$
p. 434, Eq. (9.65)	$R = \frac{\Gamma_1^2 + \Gamma_2^2 - 2\Gamma_1 \Gamma_2 \cos \delta}{1 + \Gamma_1 \Gamma_2 - 2\Gamma_1 \Gamma_2 \cos \delta}$	$R = \frac{\Gamma_1^2 + \Gamma_2^2 - 2\Gamma_1 \Gamma_2 \cos \delta}{1 + \Gamma_1^2 \Gamma_2^2 - 2\Gamma_1 \Gamma_2 \cos \delta}$
p. 435 Eq. (9.67)	$R = \frac{(\Gamma_1 + \Gamma_2)^2}{(1 + \Gamma_1 \Gamma_2)}$	$R = \frac{(\Gamma_1 + \Gamma_2)^2}{(1 + \Gamma_1 \Gamma_2)^2}$