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ERRATA FOR

FUNDAMENTALS OF NUCLEAR SCIENCE AND ENGINEERING

2nd Edition

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NOTE: All the known errors in the first edition have been corrected in this edition.

Location (Discoverer)	**As Is**	**Change to**
p. 17 Problem 19 (Tsoulfanidis)	NaI	NaCl
p. 27 Example 2.3, first equation (Bailey)	eV/s	eV s
p. 27 5th line Sec. 2.2.2 (Baxter)	...a decrease...	...an increase...
p. 28 line before Eq. (2.25)(Baxter)	...the decrease...	...the increase...
p. 31 2 lines after Eq. (2.30) (Prybyla)	$<< 2Tm_oc^c$	$<< 2Tm_oc^2$
p. 31 4 lines after Eq. (2.30) (Bailey)	$\lambda = h/T$	$\lambda = hc/T$
p. 35 Eq. (2.37) (Baxter)	$h/2\pi$	$h/4\pi$
p. 36 Eq. (2.38) (Baxter)	$h/2\pi$	$h/4\pi$
p. 48 Problem 1, first line (Tsoulfanidis)	...total energy...	...kinetic energy...
p- 56 Eq. (3.6) (Bailey)	$E_{n_o} - E_n$	$E_n - E_{n_o}$
p. 59 last line (Bailey)	$T = \sqrt{p^2c^2 + m_ec^2}$	$T = \sqrt{p^2c^2 + m_e^2c^4} - m_ec^2$
p. 61 Eq. (3.12) (Bailey)	m^{-3}	m^3
p. 61 lines 4 & 5 after Eq. (3.13) (Bailey)	cm^{-3}	cm^3
p. 62 Eq. (3.14) (Baxter)	$h/2\pi$	$h/4\pi$
p. 70 line 7 (Baxter)	remove 14 from the list of magic numbers	
p. 93 caption of Fig. 5.8	^{99m}Te	^{99m}Tc
p. 99 in the 4 lines above Fig. 5.12 (Risner)	$Q_{\beta-}$	$Q_{\beta+}$ (twice)
p. 113, Eq. (5.70) (Dunn)	$\prod_{i=1}^{j} \lambda_j$	$\prod_{i=1}^{j} \lambda_i$

(cont.)

Location (Discoverer)	**As Is**	**Change to**
p. 118 Fig. 5.21 (Tucker)	change the half-life for ${}^{208}_{87}$Fr from 14.9 d to 21.8 m change the half-life for ${}^{208}_{81}$Tl from 3.053 s to 3.053 m	
p. 135, Fig. 6.3 (Maxwell)	Figure label ϑ_n	ϑ_p
p. 136, Fig. 6.4 (Maxwell)	Figure label ϑ_p	ϑ_n
p. 137, Eq. (6.24) (Bailey)	$(M^2 + M_n^2 \cos^2\theta_s + 1)$	$(M^2 + M_n^2 \cos^2\theta_s + m_n^2)$
p. 137, Eq. (6.24)	$(M^2 + m_n^2 \cos^2\theta_s - 1)$	$(M^2 + m_n^2 \cos^2\theta_s - m_n^2)$
p. 149, Table 6.4 (Schruben)	Eq. (4.1) and Eq. (4.2)	Eq. (6.42) and Eq. (6.43), respectively
p. 154 bottom reaction (Holbert)	$Q = 4.78$ MeV	$Q = -2.5$ MeV
p. 178, Example 7.4, 1st Eq. (Tsoulfanidis)	1.031×10^6	1.031×10^8
p. 191, Example 7.5 (Bellinger)	^{54}Mn, ^{55}Mn, σ^{54} and N^{55}	^{55}Mn, ^{56}Mn, σ^{55} and N^{56}, respec.
p. 203, top figures (A. Mohamed)	interchange “Heavy” and “Light” in the two y-axis labels	
p. 254, Problem 3 (Dunn)	...decay constant...	...mean lifetime...
p. 259, 5th line Section 9.2.3 (Risner)	...$r$adiation absorbed per...	...$r$adiation produced per...
p. 259, 4 lines from bottom (Risner)	charge-particle	charged-particle
p. 261, Example 9.1 (Dunn)	the source strength should be 10^8 not 10^{14} (twice)	
p. 294, Problem 4 (Dunn)	^{13}N	^{16}N
p. 294, Problem 5 (Dunn)	the absorbed dose rates	the uncollided absorbed dose rates
p. 295, Problem 11, last line	250 million	320 million
p. 303, Table 10.2	(0.00253 eV)	(room temperature)
p. 392, 2nd line from bottom (Schruben)	T-T fusion	D-D fusion
p. 394, line above Eq. (12.13) (Weber)	n^2/T^2	n^2T^2
p. 394, Eq. (12.13) (Weber)	n^4/T^4	n^4T^4
p. 433, 3rd para. first line (Tsoulfanidis)	A typical gamma-ray detector efficiency is $\epsilon \simeq 0.1$	A typical liquid-scintillator, beta-ray detector efficiency is $\epsilon \simeq 0.9$
p. 433, last Eq. (Tsoulfanidis)	0.1 and $\simeq 2 \times 10^{-11}$	0.9 and $\simeq 2 \times 10^{-12}$
p. 551, column 1, last isotope	${}^{16}_{8}$N	${}^{16}_{7}$N

Minor Typos

Location (Discoverer)	**As Is**	**Change to**
p. 14. Eq. (1.7), Baxter	1.25×10^{-13} cm	1.2×10^{-13} cm
p. 14. last eq., Baxter	2.4×10^{14} g/cm^3	2.3×10^{14} g/cm^3
p. 33, 4th line	one cycle $t_c = 1/\nu$ such that	one cycle, $t_c = 1/\nu$, is such that
p. 34, 1st line	To generaltization	To generalize
p. 34, line two	gives	to give
p. 34, third line after Eq. (2.35)	(except, of course, $\psi(x, y, z)$.	[except, of course, $\psi(x, y, z)$].
p. 34, last line	probability	probability density
p. 42, last line	given	gives
p. 43, second line	a "quantum number."	"quantum numbers."
p. 82, Section 4.5, first line	energy including rest-mass energy	energy, including rest-mass energy,
p. 82, Section 4.5	Q value	Q-value (several times)
p. 131, 2nd line after Eq. (6.12) (Schruben)	according the mass fractions	according to the mass fractions
p. 131 3rd line of footnote (Schruben)	similar those	similar to those
p. 150 line above Example 6.5 (Schruben)	is given	is also given
p. 155 first line (Baxter)	no system	a system
p. 155 first line last para. (Baxter)	yet to produce	produced
p. 320 last para 2nd line (Baxter)	...one but...	...but one...
p. 347 1st line of Sec. 11.1.6 (Baxter)	were designed	was designed
p. 389 line 7 (Schruben)	Progress has be	Progress has been
p. 391 last line (Schruben)	$\eta_{elec} \simeq 0.35$	$\eta_{elect} \simeq 0.35$
p. 403 text line 11 (Schruben)	excite laser	excite lasers
p. 403, 1st para of Section 12.3.3, line 15	...these would mean...	...this would mean...
pp. 545 & 555, end of Table C.3 caption	1.235×10^{-5}	1.234×10^{-5}