

Errata for Second Edition

A Practical Introduction to Beam Physics and Particle Accelerators, (Second Edition)

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This document lists corrections to errors, misconceptions, and other problems that were found in the second edition of the book. If you find errors that are not listed here, please email me at sabern@umd.edu.

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Last update 1/23/2024

Chapter 1

Chapter 2

p. 2-4 Figure 2.2, equation in caption should read $B_r \cong -(r/2)(\partial B_z / \partial z)_{r=0}$.

Chapter 3

p. 3-7 End of first line after Equation 3.20, substitute “and \mathcal{E}^2 is ...” for “and \mathcal{E} is ...”

p. 3-12 Equation (3.43): substitute $D_{0x}(s)$ for D_{0x} in the integrand.

Chapter 4

p. 4-2 Second line above equation (4.2): substitute “maximum amplitude \mathcal{E}^2 ” for “maximum amplitude \mathcal{E} ”.

p. 4-9 Second line following equation (4.24): substitute “Equation (4.24) can be derived from equation (3.23) ...” for “Equation (4.24) is related to equation (3.23) ...”

p. 4-9 Second line following equation (4.25): the statement “Note that the equations for either $X(s)$ or $R(s)$, unlike the ones for $w(s)$ or $w_{\max}(s)$, involve the statistical quantity ϵ_{xrms} ...” should read “Note that the equations for either $X(s)$ or $R(s)$, unlike the one for $w(s)$, involve the statistical quantity ϵ_{xrms} ...”

Chapter 5

Chapter 6

p. 6-7 Third line above equation (6.8): substitute “We show now that the amplitude in integer resonances ...” for “We show now that integer resonances ...”

p. 6-9 Right-hand side, first equality in equation (6.17): substitute “ b_2 ” for “ b_1 ” in last term inside square brackets.

Chapter 7

p. 7-13 Line above equation (7.8): substitute “ $1/\tau_n = 1/N_s$ per turn, and ...” for “ $1/\tau_n = 1/N_s$ and ...”

Appendix

p. A-10 Table A.3: Several hyperlinks do not work anymore. See Errata for the third Edition for most recent hyperlinks.