

Jackson, Classical Electrodynamics, 3rd ed., Errata reported from February 2002 to May 2008  
These errata, except for a few glitches, are incorporated in the 19th reprinting, 2009-2010. They thus are relevant for those with any reprinting up to the 18th, but were reported after the previous errata were incorporated in the 8th reprinting in 2002. The list on the Wiley web site is a partial list, up to 2006..

#### ERRATA (FEB 2002-MAY 2008)

- p. 106, third of three equations (3.46) - Replace the two factors of  $1/4\pi$  each by  $\epsilon_0$ .  
[Christian Sohl <Christian.Sohl@eit.lth.se>, May 12, 2008] {sent in May 12, 2008}
- p. 115, five and four lines up - Replace  $\lambda = x_{v,n}/a$  or  $\lambda = y_{v,n}/a$  by  
 $k, k' = x_{v,n}/a, x_{v,n'}/a$  or  $k, k' = y_{v,n}/a, y_{v,n'}/a$ .  
[Christian Sohl <Christian.Sohl@eit.lth.se>, May 13, 2008] {sent in May 13, 2008}
- p. 120 - Equation (3.115) - On the left-hand side, the factor  $r^l_{>}$  should read  $r^l_{<}$ .  
[Christian Sohl <Christian.Sohl@eit.lth.se>, May 14, 2008]
- p. 126 - Equation (3.149) - Left parenthesis missing in last  $K_m(k\rho_{>})$ .  
[Christian Sohl <Christian.Sohl@eit.lth.se>, May 14, 2008] {sent in May 15, 2008}

The list below this line was sent in to Wiley as marked pages on February 5, 2008.  
[Last addition, September 10, 2007]

- p. 52- Problem 1.14 (a) - second line -  $G_D(\mathbf{x}, \mathbf{x}')$  should read  $G_D(\mathbf{x}, \mathbf{x}')$ .
- p. 62 - Two lines above Eq.(2.10) - Replace  $(Va)$  with  $(4\pi\epsilon_0 Va)$ .  
[Hung-Yi Lee, October 17, 2006]
- p. 72 - Seven lines above Eq.(2.59) - Replace  $y \leq 0$  by  $y \geq 0$ .  
[Richard Tipping, September 29, 2006]
- p. 86 - Problem 2.4 - Answer for part (a) should be  $d/R - 1 = 0.6180(34)$ .
- p. 98 - Equation (3.18) - Delete the parenthesis ( after  $l(l+1)$  in the integrand.  
[James Gilmore, April 25, 2005]
- p. 147 - last line of Eq.(4.11) - argument of  $Y_{lm}$  should be  $(\theta, \phi)$ , not  $(\rho, \phi)$ .  
[Bob Pownall, November 15, 2005; Richard Tipping, Sept 29, 2006]
- p. 158 - second line -  $P^l_l$  should have the subscript  $l$  directly beneath the superscript  $l$ .

- p. 177 - line above Eq.(5.7) - Add "(in Gaussian units multiply right-hand side by  $1/c$ )"  
[JDJ, July 7, 2005]
- p. 177 - line above Eq.(5.8) - Change to read "(5.4) and (5.7) with  $k = \mu_0/4\pi$ ":  
[JDJ, July 7, 2005],
- p. 178 - last line of Sect. 5.2 - Add new sentence "Note that in Gaussian units, both (5.12) and (5.13) have an added factor  $1/c$  on the right hand side. "  
[JDJ, July 7, 2005]
- p. 211 - line above (5.141) - Replace the whole line with " in the definition of the magnetic force (5.7). In SI units Faraday's law (5.136) therefore reads "  
[JDJ, July 7,2005]
- p. 232 - Problem 5.28 - the definition of  $k^2$  should be  $k^2 = 4ab/[(a+b)^2 + d^2]$ .
- p. 241 - Running Head should read Lorenz, not Lorentz.  
[Ole Keller, Sept 23, 2002]
- p. 242 - in line above (6.27), after  $\mathbf{J}$  add "at a fixed time".  
- in Eqs.(6.27) and (6.28) add  $(\mathbf{x}, t)$  as arguments to the  $\mathbf{J}$ 's on the left and add  $(\mathbf{x}', t)$  to the  $\mathbf{J}$ 's in the integrals on the right.  
[Suggestion of Fritz Rohrlich, 01.05.03]
- p. 283 - line 13 - Reference to B. D. Josephson - page number is 211, not 21.  
[Timothy Bragdon, September 9, 2007]
- p. 296 - Left-hand side of last equation should read  $\mathbf{B}(\mathbf{x}, t)$ .  
[Richard Tipping, September 29, 2006]
- p. 298 - In unnumbered equation in the middle of the page, the first exponential factor on the RHS has an incorrect subscript  $\cdot \mathbf{x}$  in the exponent. Change  $e^{-k\mathbf{n}I \cdot \mathbf{x}} \rightarrow e^{-k\mathbf{n}I \cdot \mathbf{x}}$   
[Correction from Mark Saffman, 03.26.03]
- p. 306 - last paragraph of Section 7.3:  
- line above (7.42) - Delete the word "both"  
- second equation in (7.42) - add  $\pm$  in front of both expressions on RHS.  
- Replace the last two sentences with "For the reflected wave the upper (lower) sign holds for polarization parallel (perpendicular) to the plane of incidence. For  $n' > n$  there is thus a phase reversal for the reflected wave at normal incidence (See Fig. 7.6)."  
[to clarify (7.42), Peter Widerin, November 17, 2005]

- p. 320 - Equation below (7.69) - In the last term, the coefficient should be  $1/\mu$ , not  $1/2$ .  
[Max Watson, May 10, 2007]
- p. 376 - First footnote - *Z. Naturforsch.* **72**, should read *Z. Naturforsch. A* **7**,
- p. 376 - Third footnote - Replace this footnote with the following;  
‡The first known discussion of the oscillations in the earth-ionosphere cavity was by G. F. FitzGerald (*Nature* **48**, 526 (1893)) who estimated the frequency of oscillation to be  $10\text{ Hz}$  and suggested excitation by thunderstorms. In US patent 787,412 (1905), Nikola Tesla estimated the frequency to be  $6\text{ Hz}$  (close to the *real part* of the complex frequency of the strongly damped lowest mode for a perfectly conducting earth with no outer conductor) and described generation and detection of such low-frequency waves.
- p. 380 - last line, unnumbered equation - The first factor on the RHS should read  $\exp[i\omega S(\mathbf{x}_0)/c]$ , not  $\exp[i\omega S(\mathbf{x}_0)]$ .
- p. 410, second equation - there should be a factor of  $r$  in the denominator.  
[Everett Lipman, 10.10.02]
- p. 451 - Problem 9.6(b) - The expression for  $\mathbf{B}(\mathbf{x}, t)$  should be multiplied by  $c$  to decrease the powers of  $c$  in the denominators by one power each.
- p. 519 - unnumbered equation below (11.7) - denominator on right should be  $c'$ , not  $c$ .  
[Nigel Buttimore, January 2005]
- p. 556 - Eq.(11.139) - the left hand side should read  $\epsilon^{\alpha\beta\gamma\delta}$ , not  $e^{\alpha\beta\gamma\delta}$ .  
[Stephen Snyder, April 20, 2007]
- p. 577 - Problem 11.28 - At the beginning of line 3, replace boldface  $\Phi'$  with  $\Phi'$ .  
[Richard Tipping, September 29, 2006]
- p. 595 - Figure 12.5 - On the spiraling path of the particle, the second arrowhead from the left should either be reversed or transferred to the earlier segment of the path immediately to its right.  
[Taylor Aune, February 28, 2007]
- p. 598 - Eq.(12.82), last expression on first line - the numerator should read  $q_i q_j$ , not  $q_i q_i$ .  
[Stephen Snyder, April 20, 2007]
- p. 599 - Eq.(12.84) - last expression on the right should have  $1/c$  in front of the integral.  
[Nigel Buttimore, January 2005]

p. 706 - Problem 14.24 - Parenthetical sentence at the end - Replace with

(In a real wire there are the stationary positive ions, possible static surface charge, and even a tiny volume charge density from an internal Hall effect.)

[157 characters, include. spaces] {in response to Assis & Hernandes, in their book}