**Chapter 1**

p. 8 Add note to emphasise that the real amplitude E\_0 and the complex amplitude E\_0 are not equal, and we have to remember this when we want to recover the real wave from the complex shorthand later.

**Chapter 2**

p. 22 Note 8 change to “Brewster’s angle, as derived here, is not directly related to….. the microscopic theory must give the same result, see Chapter 13.”

p. 25 before eqn (2.41) the condition “in the *y* = 0 plane” is not needed.

**Exercises**

(2.5) Should be k\_y=sin theta\_y and in terms of k\_x, k\_y and k\_z.

(2.6) Should be at z=-f, and ‘downstream of the lens’.

(2.7) Change this to ‘if the two waves are singular at z=-f and z=f, respectively.

**Chapter 3**

p. 34 modified note 3 adding a reference which describes one of Young’s experiments.

p. 38 line 11 should be “replace 1/*r*1,2 with their average”

p. 41 Example 3.3 the extra e^ikz on the 2nd line of the equation should not be there.

p.43 Factors corrected in eqn (3.29) and two preceding ones in Section 3.9. In the sum over exponential factors, the argument of the exponential was missing the index *n*. In the next line the complex factor before the sin disappears. In the numbered equation for intensity and preceding one, the arguments of the sin functions should be (*Nkd*x/2*z*) and (*kdx*/2*z*).

p. 45 Fig. 3.18 *x* and *z* should be swapped in Figure.

p. 46 Note 19: R in two equations replace calligraphic R.

p. 47 Fig. 3.20 labels in plot inconsistent with axis scale which is phase over 2 pi. Added extra Example.

p. 48 add side note to clarity ½ factor in equation.

Exercise (3.3) *r* should be *r*’ to be consistent with notation in Chapter. Final sentence should be “in order [to] re-write….”

**Chapter 4**

p.54 Note added to explain that the magnitude of complex field is not necessarily equal to the real field amplitude.

p.54 Included prefactor of 1/sqrt(2) in eqns (4.6) and (4.7) to be consistent with (4.4) and (4.5).

p.58 Eqn (4.13) Left-hand side should be a function of  not .

**Chapter 5**

p. 72 remove 1/(ikz) from eqn (5.1) and define A immediately after.

p. 74 change “The phase of these contributions oscillates” to “The sign of these contributions oscillates” and “In Fig. 5.5 we have labelled two points, …, where the phase changes sign.” To “In Fig. 5.5 we have labelled two points, …, where the field contributed changes sign.”

p. 75 before eqn (5.9) condition should be f(rho’)=1 for rho’<R, 0 otherwise.

p. 83 Example 5.6. should be e^(-x^2/w\_0^2) in integral. Eqn (5.35) delete (lambda z) in numerator of right hand equation.

**Chapter 6**

p. 93. Mistake in equation (6.5), the coefficients of the complex Fourier series. Corrected January 2019.

p.100 Add extra sidenote to remind reader of meaning of E^(z) and E^(0).

p.100 Included dy’ in first line of eqn (6.33). Second line E^(z) in integral changed to E^(O). Added June 2019.

p. 107/8 exercise (6.4) part (i). The minus should not be present in the expression for a\_j. Corrected Jan 2020.

p. 108 exercise (6.5) part (i). LHS of first equation should be f(x), not a\_j. Corrected Jan 2019.

p. 109 exercise (6.16) part (i). “the” added before “horizontal and vertical” Corrected Jan 2019.

**Chapter 7**

p.115 round trip time of cavity is 2L/c, not c/2L in Example 7.1.

p.115 round trip time of cavity is 2L/c, not c/2L in caption to figure 7.7.

p.116 round trip time of cavity is 2L/c, not c/2L in Example 7.2.

p.116 round trip time of cavity is 2L/c, not c/2L in caption to figure 7.8.

p. 125 In exercise (7.10) part (i) it should be eqn (7.9) that is referred to, not (7.3).

p. 145 In exercise (8.18) there was some confusion over units. The x dependence of the intensity has now been added explicitly, Gamma(vu) has been replaced with Gamma (x), and in the integral F(nu) has become F(nu-nu\_c).

**Chapter 8**

p. 142 Exercise (8.1). To be consistent with earlier notation, coherence time should be written as $\tau\_{\rm c}$, not $\Delta t$.

**Chapter 9**

p. 149 Fig. 9.3 caption corrected to: Effect of the instrument point-spread function on an image of a double slit. The `perfect' image, proportional to FT[f\_i(x',y')] in eqn~(9.2), is shown dashed. The `actual' image function in the focal plane, f(x) where E^(f)=E\_0f(x), is shown in black.

p. 154 Two lines after eqn (9.14) v=y/(f\lambda), not v=x/(f\lambda). Same correction made two lines after Fig. 9.9.

**Chapter 10**

p. 161. In Example 10.1, lines 4 and 5, there was a factor of pi missing in the argument of the sinc functions.

p. 163. In marginal note 5 there was an extraneous parenthesis at end.

p. 166. 4 lines in Fourier transform needed a factor of two before the delta(u), and to be divided by 4, not 2.

p. 174 Exercise (10.7). There was a missing] to close the hint at the end of the question.

**Chapter 11**

p. 193. Exercise (11.11). Mistake in formula for focal shift in part (c), it should be z\_2 not z\_R2.

**Chapter 13**

p. 217. Mistake in formula for intensity, *c* missing, in text before equation (13.14).

p. 222/3. Mistake in angular factor, should be sin^3 theta, not sin theta^3, in marginal not 17 page 222, and equation (13.43) on p223.

p. 228 Fig. 13.16 Clarification added: The shift could be positive or negative depending on the resonance frequency between the excited state and higher excited states.

**Appendix A**

p. 235. Reference in text to eqn (A.8) in text 3 lines after eqn (A.16) should be to eqn (A.15).

**Appendix B**

p. 247. (u+u0) in second exponent in integral before eqn (B.45).

**Appendix C**

p. 256 When we substitute wave function into Shrodinger equation the all the c\_b terms should have exp(-i E\_b t/hbar) factors.

p. 256. Better to define D\_0=-e |<a|r\_l|b>|, and note that dipole expectation value is always negative because of negative charge on electron, so to get a positive (Rabi) frequency we need to use

Omega= - D\_0E\_0/hbar

In C.9