Typos in Sakurai and Napolitano, third edition

Chapter 4

- First line of equation (4.78): Replace $e^{iE_A t/\hbar}$ by $e^{-iE_A t/\hbar}$.
- Second line of equation (4.78): Replace $e^{i(E_A-E_S)t/\hbar}$ by $e^{-i(E_A-E_S)t/\hbar}$.
- First line after (4.78): Replace $2\pi\hbar/2(E_A - E_S)$ by $2\pi\hbar/[2(E_A - E_S)]$ or $\pi\hbar/(E_A - E_S)$ to avoid ambiguity.
- First line of equation (4.158): Replace the expression $\int d^3x' \Theta|\mathbf{x}'\rangle\langle\mathbf{x}'|\alpha\rangle^*$ by $\int d^3x' \langle\mathbf{x}'|\alpha\rangle^* \Theta|\mathbf{x}'\rangle$.
- Second line after (4.163): Replace $\mathbf{x}$ by $\mathbf{x}'$.
- Equation (4.177): The sums are over j and m.

Chapter 5

- Equation (5.283): Change 2π to π or 1 in both expressions. (π if you want to hit the maximum of the $\sin^2$ in equation (5.281), and 1 if you want to get (5.284).)
- Equation (5.289) is wrong.

Chapter 6

- Second line after equation (6.3): replace $V(\mathbf{r})$ by $V(\mathbf{x})$.
- Between equations (6.43) and (6.44): replace $\mathbf{k}'$ by $\mathbf{x} - \mathbf{x}'$.
- Equation (6.62): delete "$= 0$".
- Replace equation (6.64) by

$$\int_c \frac{f(z)}{z - z_0} dz = \int_{-\pi}^{0} \frac{f(x_0 + \delta e^{i\phi})}{\delta e^{i\phi}} (i\delta e^{i\phi} d\phi) = \int_{-\pi}^{0} f(x_0 + \delta e^{i\phi}) i d\phi$$
$$\rightarrow \int_{-\pi}^{0} f(x_0) i d\phi = i\pi f(x_0) \qquad \text{as} \qquad \delta \rightarrow 0.$$

- Equation (6.66) is wrong. The "derivation" is invalid, because the delta function is not an analytical function of the complex variable E'.

- The validity condition above equation (6.84) already assumes low energies.
- Second line of equation (6.86): replace $(\mathbf{x}''|\mathbf{k})$ by $\langle \mathbf{x}''|\mathbf{k}\rangle$.
- In section 6.4, m is used both for mass and for the eigenvalue of L_z in the same equations without distinction.
- Last line of equation (6.92): Replace $m = 0$ by $m' = 0$.
- First line on page 390: Replace $m = 0$ by $m' = 0$.
- Equation (6.101): replace $\sum_{m=-1}^{l}$ by $\sum_{m=-l}^{l}$.
- Equation (6.110): replace E' by E.
- In equation (6.134), the sum is over l.
- Equation (6.189): replace $\simeq$ with $=$.
- Figure 6.12(b): the tangent line should have been drawn at $r = R$.

Chapter 7

- First line of equation (7.147): Replace "$\langle \mathbf{k}_1\lambda_1\mathbf{k}_2\lambda_2|V|\mathbf{k}_4\lambda_4\mathbf{k}_3\lambda_3\rangle$" with "$\langle \mathbf{k}_1\lambda_1\mathbf{k}_2\lambda_2|V|\mathbf{k}_3\lambda_3\mathbf{k}_4\lambda_4\rangle$".
- In both the last and the second to last line of equation (7.147) and in equation (7.148) replace "$\delta_{\lambda_1,\lambda_4}\delta_{\lambda_2,\lambda_3}$" with "$\delta_{\lambda_1,\lambda_3}\delta_{\lambda_2,\lambda_4}$".
- Equation (7.197): Delete the second line, saying "$= \langle (E(\chi))^2\rangle$".
- First line below equation (7.197): Delete "since $\langle E(\chi)\rangle = 0$ for a state with a single mode." This statement is wrong. A counter example is the expectation value of the electric field in a coherent state.
- Equation (7.199): A "$|0\rangle$" is missing on the right hand side.
- First line below equation (7.199): Replace "$\zeta = s^{i\theta}$" by "$\zeta = se^{i\theta}$".

Appendix F

- Replace the last displayed equation on page 539 by

$$k = \pm\sqrt{q^2 + i\varepsilon} = \pm q\left(1 - i\frac{\varepsilon}{q^2}\right) \Rightarrow \pm q \pm i\varepsilon$$

- Replace the text on page 540 by: "The pole at $k = -k_0 \equiv -q - i\varepsilon$ does not matter to us, since it is outside the integration contour. However, the pole at $k = k_0 = q + i\varepsilon$ is inside, so we use the residue theorem to write"

- Replace the displayed equation on page 540 by

$$\begin{aligned} I &= \lim_{\varepsilon\to 0}\oint_C \frac{e^{ika}}{-(k-k_0)(k+k_0)}kdk \\ &= \lim_{\varepsilon\to 0} 2\pi i \frac{e^{ika}}{-(k+k_0)}k\Big|_{k=k_0} = -\pi i \lim_{\varepsilon\to 0} e^{ik_0 a} = -\pi i e^{iqa}. \end{aligned}$$