Errata for
The Feynman Lectures on Physics Volume III
Definitive Edition (Newly Reported)

The errors in this list appear in *The Feynman Lectures on Physics: Definitive Edition* and earlier editions; errors validated by Caltech will be corrected in future printings of the *Definitive Edition* or in future editions.

Errors are listed in the order of their appearance in the book. Each listing consists of the errant text followed by a brief description of the error, followed by corrected text.

last updated: 9/29/2009 8:16 AM

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III:vii, par 1

... Sin-Itero Tomanaga ...

Misspelled name. ("Sin-Itero Tomanaga" vs. "Sin-Itiro Tomonaga". See, for example, http://nobelprize.org/nobel_prizes/physics/laureates/1965/tomonaga-bio.html)

... Sin-Itiro Tomonaga ...

III:xiv, par 6

... Sin-Itero Tomanaga ...

Misspelled name. ("Sin-Itero Tomanaga" vs. "Sin-Itiro Tomonaga". See, for example, http://nobelprize.org/nobel_prizes/physics/laureates/1965/tomonaga-bio.html)

... Sin-Itiro Tomonaga ...

III:1-5, par 8

Assuming Propositon A, all electrons …

Incorrect spelling of 'Proposition'.

Assuming Proposition A, all electrons …

III:1-7, par 5

For the probability that an electron will arrive at the backstop by passing through *either* hole, we do find P_{12}'=$P_1 + P_2$.

P_1 and P_2 are missing their primes (see Fig. 1-4).

For the probability that an electron will arrive at the backstop by passing through *either* hole, we do find P_{12}'=P_1' + P_2'.

III:2-6, par 2

The spread of momentum is roughly h/a because of the uncertainty relation,

In the *FLP Definitive Edition Caltech Approved Vol III Errata* all occurence of ‘h’ on this page have been changed to ‘$\hbar$’ without any explanation as to why, though this seems to contradict the result derived in Eq. (2.3). An explanation is needed, in a footnote.

The spread of momentum is roughly $\hbar/a$ because of the uncertainty relation†,

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† We are using the uncertainty relation $\Delta p \Delta x \approx \hbar$ instead of $\Delta p \Delta x \approx h$ because it is more accurate in this particular application.

III:3-10, par 2

So if $f(\theta)$ is the amplitude for α-scattering through the angle θ, then $f(\pi - \theta)$ is the amplitude for oxygen scattering through the angle θ.

Wrong angle for oxygen scattering.

So if $f(\theta)$ is the amplitude for α-scattering through the angle θ, then $f(\pi - \theta)$ is the amplitude for oxygen scattering through the angle $\pi - \theta$.

III:4-15, par 2

The attractive force between neutrons and protons of opposite spins can be seen by scattering experiments. Similar scattering experiments with two protons with parallel spins show that there is the corresponding attraction.

Incorrect statement (“parallel spins” vs. “opposite spins”).

The attractive force between neutrons and protons of opposite spins can be seen by scattering experiments. Similar scattering experiments with two protons with opposite spins show that there is the corresponding attraction.

III:5-7, 1st line

it from the first *S*-fiter.)

Incorrect spelling of ‘filter’.

it from the first *S*-filter.)

III:5-15, par 1

…that the state ϕ goes into the base states is his T representation.

Incorrect word (‘is’ vs. ‘in’).

…that the state ϕ goes into the base states in his T representation.

III:5-15, par 1

… the matrix $\langle jT | iS \rangle$. This matrix can then be used to convert all of his equations to our form.

Feynman said this backwards. The S-Base is *ours* in this discussion, and the T-Base is the other fellow’s.

… the matrix $\langle jT | iS \rangle$. This matrix can then be used to convert all of our equations to his form.

III:6-1, below Eq 6.4

The amplitudes for the state (ψ) to be in the base states (iT) are related

Wrong base states (‘iT’ vs. ‘jT’).

The amplitudes for the state (ψ) to be in the base states (jT) are related

III:6-6, above unnumbered Eq

You might conclude that any rotation about the z-axis of the “frame of reference” for base states leaves the amplitudes C_+ to be “up” and “down,” the same as before.

Extraneous (and confusing) word (C_+) and superfluous comma (after “down”). C_+ is the amplitude to be up, not “up and down.”

You might conclude that any rotation about the z-axis of the “frame of reference” for base states leaves the amplitudes to be “up” and “down” the same as before.

III:6-7, par 1

Well, all we have decided is that the *magnitudes* of C_1' and C_2' are the same in the two cases, …

Incorrect notations (2) (‘ C_1' ’ vs. ‘ C_+' ’ and ‘ C_2' ’ vs. ‘ C_+ ’)

Well, all we have decided is that the *magnitudes* of C_+' and C_+ are the same in the two cases, …

III:6-13, last par

We want to know the amplitude $\langle C_+|\psi\rangle$ that the particle is “up” along z and the amplitude $\langle C_-|\psi\rangle$ that it is “down” …

C_+ and C_- are amplitudes and not states.

We want to know the amplitude C_+ that the particle is “up” along z and the amplitude C_- that it is “down” …

III:8-2, par 2

We remove the $\langle\chi|$ from both sides Eq. (8.1) …

Missing word ‘of’.

We remove the $\langle\chi|$ from both sides of Eq. (8.1) …

III:8-4, last par

If we multiply it “on the left” by $|\phi\rangle$, it becomes

Wrong side (‘left’ vs. ‘right’).

If we multiply it “on the right” by $|\phi\rangle$, it becomes

III:8-6, par 4

We also guess that there is an idealized proton which has its π-mesons, and k-mesons, …

Incorrect capitalization & italics (‘k-’ vs. ‘K-‘ see Section 11-5).

We also guess that there is an idealized proton which has its π-mesons, and K-mesons, …

III:9-4, par 1

$H_{I,I} = E_I, \qquad H_{I,II} = 0,$
$H_{I,II} = 0, \qquad H_{II,II} = E_{II},$

Incorrect subscript for row 2 col 1 (‘$H_{I,II}$’ vs. ‘$H_{II,I}$’).

$H_{I,I} = E_I, \qquad H_{I,II} = 0,$
$H_{II,I} = 0, \qquad H_{II,II} = E_{II},$

III:9-8, last par

The beam is then set through a…

Incorrect spelling of ‘sent’.

The beam is then sent through a…

III:9-14, par 3, unnumbered Eq

$$\mathcal{I} = \varepsilon_0 c^2 \left|\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right|_{\text{ave}} = \tfrac{1}{2}\varepsilon_0 c^2 \left(\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right)_{\max} = 2\varepsilon_0 c^2 \mathcal{E}_0^2.$$

Missing magnitude operator ($\left(\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right)_{\max}$ vs. $\left|\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right|_{\max}$).

$$\mathcal{I} = \varepsilon_0 c^2 \left|\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right|_{\text{ave}} = \tfrac{1}{2}\varepsilon_0 c^2 \left|\boldsymbol{\mathcal{E}} \times \boldsymbol{B}\right|_{\max} = 2\varepsilon_0 c^2 \mathcal{E}_0^2.$$

III:10-2, par 3

There is some small amplitide for the electron to …

Incorrect spelling of ‘amplitude’.

There is some small amplitude for the electron to …

III:10-4, par I

… is given in units of 1 Å(10-8 cm),

There should be a space between the ‘Å’ and the parantheses.

… is given in units of 1 Å (10-8 cm),

III:10-5, Eq 10.10

$$A \sim \frac{e^{-\left(\sqrt{2mW_H}/\hbar\right)R}}{R} \qquad (10.10)$$

Wrong symbol for "proportional to" ('~' vs. '∝'). Feynman explicitly defines "~" to mean "approximately equal to" in FLP Vol I Chapter 8 -- see Eq. (8.14). " ~" is used to mean "proportional to" elsewhere – for example, Vol I, page 7-2, where it can be found in Kepler's third law. '∝' is also used to mean "proportional to," in some other places in FLP (for example, Vol I, page 5-1). In 1975, FLP's then-Editor in Chief, Allan Wylde, commented on these inconsistencies in a letter to Feynman. Feynman responded to Wylde as follows: "We have been careless with these signs because, at least at that time, a strict convention has not been established. If you want to use ~ for "proportional to" and the proper [wavy equal sign] for "approximate" you'll have to be careful throughout the text to find all the other places we used these symbols."

$$A \propto \frac{e^{-\left(\sqrt{2mW_H}/\hbar\right)R}}{R} \qquad (10.10)$$

III:10-8, par 2

… as shown in Fig. 10-4(a)

There is no part (a) in Fig 10-4 (and it would be a mistake to use (a) or (b) to label Fig. 10-4 because 'a' and 'b; are already used to label electrons in the figure).

… as shown in the top half of Fig. 10-4.

III:10-8, caption of Fig 10-5

(E_h = 13.6 ev.)

Incorrect capitalization of subscript.

(E_H = 13.6 ev.)

III:10-13, 2nd line of Eq 10.17

$$i\hbar\frac{dC_2}{dt} = E_2 C = +\mu B_z C_2.$$

Missing subscript on middle 'C'.

$$i\hbar\frac{dC_2}{dt} = E_2 C_2 = +\mu B_z C_2.$$

III:11-5, 1st unnumbered Eq

$$\langle i|\psi(t+\Delta t)\rangle = \sum_j \langle i|U(t,t+\Delta t)|\,j\rangle\langle j|\psi(t)\rangle$$

The order of the arguments of U should be reversed (see Section III:8-4).

$$\langle i|\psi(t+\Delta t)\rangle = \sum_j \langle i|U(t+\Delta t,t)|\,j\rangle\langle j|\psi(t)\rangle$$

III:11-5, after 1st unnumbered Eq

The matrix element $\langle i|U(t,t+\Delta t)|\,j\rangle$ is the amplitude …

The order of the arguments of U should be reversed (see Section III:8-4).

The matrix element $\langle i|U(t+\Delta t,t)|\,j\rangle$ is the amplitude …

III:11-5, 2nd unnumbered Eq

$$\langle i|U(t,t+\Delta t)|\,j\rangle = ...$$

The order of the arguments of U should be reversed (see Section III:8-4).

$$\langle i|U(t+\Delta t,t)|\,j\rangle = ...$$

III:11-13, 2nd Eq in Eq 11.39

$$\mathrm{K}^- + p \rightarrow \Lambda_0 + \pi^+$$

Typographic error (‘Λ_0‘ vs. ‘Λ^0‘).

$$\mathrm{K}^- + p \rightarrow \Lambda^0 + \pi^+$$

III:11-17, par 1

But since there is the amplitude $\langle \bar{\mathrm{K}}^0 \,|\, \mathrm{W} \,|\, \mathrm{K}^0 \rangle$ for the K^0 to turn into a $\bar{\mathrm{K}}^0$ there should be the additional term

$$\langle \bar{\mathrm{K}}^0 \,|\, \mathrm{W} \,|\, \mathrm{K}^0 \rangle C_- = AC_-$$

added to the right-hand side of the first equation.

Inaccurate statement; the term added to the right-hand side of the first equation is the amplitude for a $\bar{\mathrm{K}}^0$ to turn into a K^0.

But since there is the amplitude $\langle \mathrm{K}^0 \,|\, \mathrm{W} \,|\, \bar{\mathrm{K}}^0 \rangle$ for the $\bar{\mathrm{K}}^0$ to turn into a K^0 there should be the additional term

$$\langle \mathrm{K}^0 \,|\, \mathrm{W} \,|\, \bar{\mathrm{K}}^0 \rangle C_- = AC_-$$

added to the right-hand side of the first equation.

III:11-18, par 2

… think in terms of the two “particles” (that is, “states”) K_1 and K_2.

Typographic error (‘K’ vs. ‘K’, 2 times).

… think in terms of the two “particles” (that is, “states”) K_1 and K_2.

III:11-19, par 4

… ($2\beta = 10^{10}$ sec) …

β is not a period, it is a frequency (see text after Eq. 11.53), so it’s units are not seconds, but seconds^{-1}

… ($2\beta = 10^{10}\,\mathrm{sec}^{-1}$) …

III:11-20, Fig 11-6

$2\beta = 10^{10}$ sec

β is not a period, it is a frequency (see text after Eq. 11.53), so it’s units are not seconds, but seconds^{-1} [Three occurrences: in caption, in (a) and in (b)]

$2\beta = 10^{10}\,\mathrm{sec}^{-1}$

III:11-21, par 3

This is a set of N linear algebraic equations for the N unknowns a_1, a_2, …, a_n, …

Typographic error ('a_n' vs. 'a_N').

This is a set of N linear algebraic equations for the N unknowns a_1, a_2, …, a_N, …

II:11-22, Eq 11.67

$$\hat{H}\left|\boldsymbol{n}\right\rangle = E_{\mathbf{n}}\left|\boldsymbol{n}\right\rangle$$

Typographic error ('$\boldsymbol{n}$' vs. '$\mathbf{n}$').

$$\hat{H}\left|\mathbf{n}\right\rangle = E_{\mathbf{n}}\left|\mathbf{n}\right\rangle$$

III:11-23, below Eq 11.76

Then we multiply Eq. (11.75) on the left by $\left|\mathbf{n}\right\rangle$ to get

Incorrect statement ('left' vs. 'right').

Then we multiply Eq. (11.75) on the right by $\left|\mathbf{n}\right\rangle$ to get

III:12-4, par 3

Then the three $\sigma_z^{\mathrm{p}}, \sigma_y^{\mathrm{p}}, \sigma_z^{\mathrm{p}}$—that makes six.

Typographic error. The first indexed 'z' should be an 'x'.

Then the three $\sigma_x^{\mathrm{p}}, \sigma_y^{\mathrm{p}}, \sigma_z^{\mathrm{p}}$—that makes six.

III:12-5, par 2

…the thing we call μ_{e} appears in quantum mechanics as $\mu_{\mathrm{e}}\sigma_{\mathrm{e}}$. Similarly, what appears classically as μ_{p} will usually turn out in quantum mechanics to be $\mu_{\mathrm{p}}\sigma_{\mathrm{p}}$ …

Typographic error. The subscripts on the sigma operators should be superscripts (2 occurences).

…the thing we call μ_{e} appears in quantum mechanics as $\mu_{\mathrm{e}}\sigma^{\mathrm{e}}$. Similarly, what appears classically as μ_{p} will usually turn out in quantum mechanics to be $\mu_{\mathrm{p}}\sigma^{\mathrm{p}}$ …

III:12-12, par 3

(in addition to the steady strong field B).

Vectors should be bold.

(in addition to the steady strong field $\boldsymbol{B}$).

III:12-13, par 2

… the two together have the energy $(\mu_e + \mu_p)B = \mu B$, …

Sign error.

… the two together have the energy $(\mu_e + \mu_p)B = -\mu B$, …

III:13-6, par 5

For the stationary states described by Eq. (13.12), … a superposition of several solutions like Eq. (13.12) with slightly different values of *k*—

Incorrect reference ('13.12' vs. '13.14,' two occurrences).

For the stationary states described by Eq. (13.14), … a superposition of several solutions like Eq. (13.14) with slightly different values of *k*—

III:13-8, Eq 13.25

$$C(x,y,z) = e^{-iEt/\hbar}e^{-i\mathbf{k}\cdot\mathbf{r}}$$

The sign of the 2nd exponent is wrong.

$$C(x,y,z) = e^{-iEt/\hbar}e^{i\mathbf{k}\cdot\mathbf{r}}$$

III:13-10, par 1

… we described in Chapter 36, Vol. 1; …

Consistency error ('Vol. 1' vs. 'Vol. I').

… we described in Chapter 36, Vol. I; …

III:14-1, Sidebar, Reference to Kittel

Reference: C. Kittel, Introduction to Solid State Physics, Chapters 13, 14 and 18.

Incomplete information. The chapter numbers in "Introduction to Solid State Physics" vary from edition to edition. Therefore a full reference including the edition should be given.

Reference: C. Kittel, Introduction to Solid State Physics, 2nd Edition, Chapters 13, 14 and 18.

III:14-3, par 6

Of course that does not happen because after awhile the electrons and holes accidentally find each other—

Grammatical error: adverb used where noun is needed ("awhile" vs."a while").

Of course that does not happen because after a while the electrons and holes accidentally find each other—

III:14-4, par 2

The variation of many of the properties of a superconductor—the conductivity for example—is mainly determined by the exponential factor because all the other factors vary much more slowly with temperature.

Wrong word ("superconductor" vs. "semiconductor"). This was a slip of the tongue: Feynman actually said "superconductor," but he was lecturing (only) about semiconductors at the time, not (at all) about superconductors, and furthermore, this statement clearly refers to the former, and not to the latter.

The variation of many of the properties of a semiconductor—the conductivity for example—is mainly determined by the exponential factor because all the other factors vary much more slowly with temperature.

III:14-7, par 3

… found out that for berylium the potential difference had the wrong sign.

Incorrect spelling of 'beryllium'.

… found out that for beryllium the potential difference had the wrong sign.

III:14-7, last par

… a vertical electric field which we will call $\mathcal{E}_{\text{tr}}$ …

Vectors should be bold.

… a vertical electric field which we will call $\boldsymbol{\mathcal{E}}_{\text{tr}}$ …

III:14-11, par 2

This back current I_0 is limited by the small density of the minority carriers on the *n*-side of the junction.

The term “minority carriers” is not used elsewhere; this statement should therefore be made clearer.

This back current I_0 is limited by the small density of the minority *p*-type carriers on the *n*-side of the junction.

III:14-10, Eq 14.12

$$I_0 \sim N_p\left(n\text{-side}\right) = N_p\left(p\text{-side}\right)e^{-qV/\kappa T} \qquad (14.12)$$

Wrong symbol for “proportional to” (‘$\sim$’ vs. ‘$\propto$’). See notes on error III:10-5, Eq 10.10, above.

$$I_0 \propto N_p\left(n\text{-side}\right) = N_p\left(p\text{-side}\right)e^{-qV/\kappa T} \qquad (14.12)$$

III:14-10, par 3, unnumbered Eq

$$I_1 \sim N_p\left(p\text{-side}\right)e^{-q(V-\Delta V)/\kappa T}.$$

Wrong symbol for “proportional to” (‘$\sim$’ vs. ‘$\propto$’). See notes on error III:10-5, Eq 10.10, above.

$$I_1 \propto N_p\left(p\text{-side}\right)e^{-q(V-\Delta V)/\kappa T}.$$

III:15-2, end of par 3

(From now on we will leave off the descriptive superscript on the P.)

The operator P is missing its hat.

(From now on we will leave off the descriptive superscript on the $\hat{P}$.)

III:15-3, par 2

On the state $|5\rangle$, the operation …

Typographic error (‘5’ vs. ‘x_5’).

On the state $|x_5\rangle$, the operation …

III:15-9, Fig 15-8

Consistency error ('S' vs 's', 6 occurrences): The body text (and footnote) uses lowercase for variable 's', not upper case, and the figure should match.

III:16-3, Eq 16.8

$$C(x_n) = e^{iEt/\hbar} e^{ikx_n} \tag{16.8}$$

Sign error (' $e^{iEt/\hbar}$ ' vs ' $e^{-iEt/\hbar}$ ').

$$C(x_n) = e^{-iEt/\hbar} e^{ikx_n} \tag{16.8}$$

III:16-8, above Eq 16.29

The intregral can also be rewritten as

Incorrect spelling of 'integral'.

The integral can also be rewritten as

III:16-9, par 3

… since it refers to the same state ψ, …

Consistency error ('state ψ ' vs. 'state $|\psi\rangle$ ').

… since it refers to the same state $|\psi\rangle$, …

III:16-9, par 3

This equation must be true for any state ψ and, …

Consistency error ('state ψ ' vs. 'state $|\psi\rangle$ ').

This equation must be true for any state $|\psi\rangle$ and, …

III:17-2, par 3

We would like to say the same things a litte bit more generally—

Incorrect spelling of 'little'.

We would like to say the same things a little bit more generally—

III:17-4, Fig 17-3

Figure 17-3 has two parts referenced in the body text as “17-3(a)” and “17-3(b),” but the labels (a) and (b) are missing from the figure.

III:18-17, Table 18-4

All m’s should be uppercase (4 occurences).

III:18-20, Eq 18.60

$$\left[\frac{(r+s)!}{r!s!}\right]^{-1/2} \{\underbrace{|++\cdots++}_{r}\underbrace{--\cdots--\rangle}_{s} + (\text{all arrangements of order})\} = |j,m\rangle \tag{18.60}$$

The underbraces are misplaced.

$$\left[\frac{(r+s)!}{r!s!}\right]^{-1/2} \left\{\left|\underbrace{++\cdots++}_{r}\underbrace{--\cdots--}_{s}\right\rangle + (\text{all arrangements of order})\right\} = |j,m\rangle \tag{18.60}$$

III:18-21, Eq 18.67 [introduced in the 2nd printing]

$$R_y(\theta)\left|\begin{matrix} r \\ s \end{matrix}\right\rangle = \sum_{r'=0}^{r+s} B_{r'} \left[\frac{(r'+s')!}{r'!s'!}\right]^{1/2} \left\{|+\rangle^{r'} |-\Big\rangle^{s'}\right\}_{\text{perm}}. \tag{18.67}$$

The right angle bracket of $|-\rangle$ is way too large.

$$R_y(\theta)\left|\begin{matrix} r \\ s \end{matrix}\right\rangle = \sum_{r'=0}^{r+s} B_{r'} \left[\frac{(r'+s')!}{r'!s'!}\right]^{1/2} \left\{|+\rangle^{r'} |-\rangle^{s'}\right\}_{\text{perm}}. \tag{18.67}$$

III:18-22, Eq 18.74

$$\left|\psi_F^+\right\rangle = \alpha\left\{R_{\text{up}}\right\rangle + \left|L_{\text{dn}}\right\rangle\right\}, \tag{18.74}$$

Missing bar in first ket on right-hand side (‘ $R_{\text{up}}\rangle$ ’ vs. ‘ $|R_{\text{up}}\rangle$ ’.

$$\left|\psi_F^+\right\rangle = \alpha\left\{\left|R_{\text{up}}\right\rangle + \left|L_{\text{dn}}\right\rangle\right\}, \tag{18.74}$$

III:19-7, Fig. 19-3

The angle ϕ shown between the x and x’ axes is incorrect. ϕ is the angle between the x-axis and the projection of the x’-axis into the xy-plane (shown dotted in the figure -- ϕ is also the angle between the y and y’ axes, as correctly shown in the figure).

III:19-16, par 4 heading

Na to A

Outdated symbol for Argon (‘A’ vs. ‘Ar’).

Na to Ar

III:20-5, below 20.19

… where the amplitudes $\langle i|H|j\rangle$ are …

The operator H is missing its hat.

… where the amplitudes $\langle i|\hat{H}|j\rangle$ are …

III:20-5, Eq after 20.19

$$\langle E\rangle_{\text{av}} = \sum_{ij}\langle\psi|i\rangle E_i\delta_{ij}\langle j|\psi\rangle = \sum_i E_i\langle\psi|i\rangle\langle i|\psi\rangle$$

The first E_i should be E_j.

$$\langle E\rangle_{\text{av}} = \sum_{ij}\langle\psi|i\rangle E_j\delta_{ij}\langle j|\psi\rangle = \sum_i E_i\langle\psi|i\rangle\langle i|\psi\rangle$$

III:20-11, Eqs (20.59), 3rd line

Consistency error, The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}_x$ is typographically different from those that follow.

III:20-12, 1st line

> In this list, we have introduced the symbol $\mathcal{P}_x$ for …

The operator $\hat{\mathcal{P}}_x$ is missing its hat.

> In this list, we have introduced the symbol $\hat{\mathcal{P}}_x$ for …

III:20-14, below Eq 20.68

> What is $\hat{\mathcal{L}}$?

Subscript 'z' missing.

> What is $\hat{\mathcal{L}}_z$?

III:20-14, Eqs (20.70) (introduced in the definitive edition)

Consistency error, The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}_x$ is typographically different from those that precede and follow.

III:20-15, 1st unnumbered Eq (introduced in the definitive edition)

Consistency error, The '$\mathcal{P}$'s in operators $\hat{\mathcal{P}}_x$ and $\hat{\mathcal{P}}_y$ are typographically different from those that precede and follow.

III:20-17, 1st unnumbered Eq (introduced in the definitive edition)

Consistency error, The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}_x$ is typographically different from those that precede and follow.

III:21-4, above Eq 21.12 (introduced in the definitive edition)

… momentum operator $\hat{\mathcal{P}}$ minus $q\boldsymbol{A}$.

Two errors: The operator $\hat{\mathcal{P}}$ is a vector operator and should be bold. The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}$ is typographically different from those that precede and follow.

… momentum operator $\hat{\boldsymbol{\mathcal{P}}}$ minus $q\boldsymbol{A}$.

III:21-4, Eq 21.12

$$\boldsymbol{J} = \frac{1}{2}\left\{\psi^*\left[\frac{\hat{\mathcal{P}} - q\boldsymbol{A}}{m}\psi\right]\psi + \psi\left[\frac{\hat{\mathcal{P}} - q\boldsymbol{A}}{m}\right]^*\psi^*\right\}. \tag{21.12}$$

Five errors: The operator $\hat{\mathcal{P}}$ is a vector operator and should be bold (two occurences). The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}$ is typographically different from those that precede and follow (two occurences). The ψ *inside* the leftmost square brackets shouldn't be there [NOTE: This is a Caltech-approved correction that was botched in the 4th printing – See *FLP_Definitive_Edition_3rd_printing_Vol_III_Errata.pdf*].

$$\boldsymbol{J} = \frac{1}{2}\left\{\psi^*\left[\frac{\hat{\boldsymbol{\mathcal{P}}} - q\boldsymbol{A}}{m}\right]\psi + \psi\left[\frac{\hat{\boldsymbol{\mathcal{P}}} - q\boldsymbol{A}}{m}\right]^*\psi^*\right\}. \tag{21.12}$$

III:21-4, Eq 21.13 (introduced in the definitive edition)

Two errors: The operator $\hat{\mathcal{P}}$ is a vector operator and should be bold. The '$\mathcal{P}$' in operator $\hat{\mathcal{P}}$ is typographically different from those that precede and follow.

III:21-5, par 3

… in which I can produce a flux of magnetic field (B-field), …

Vectors should be bold.

… in which I can produce a flux of magnetic field ($\boldsymbol{B}$-field), …

III:21-5, Eq 21.16

$$E = -\frac{\partial \boldsymbol{A}}{\partial t}$$

Vectors should be bold.

$$\boldsymbol{E} = -\frac{\partial \boldsymbol{A}}{\partial t}$$

III:21-16, par 4

… are connected to our electrical intruments which …

Incorrect spelling of ‘instruments’.

… are connected to our electrical instruments which …

III:A-6, par 2

… an axis through the atom parallel to *B*, so if *B* is along …

Vectors should be bold (‘*B*’ vs. ‘***B***’, 2x)

… an axis through the atom parallel to ***B***, so if ***B*** is along …

III:A-22, 1st line

like praseodynium-ammonium-nitrate

Incorrect spelling of ‘praseodymium’

like praseodymium-ammonium-nitrate

III:A-17, page number

The page number is missing on this page.

III:Index-5

Priestly, J.

Incorrect spelling of proper name (‘Priestly’ vs. ‘Priestley’).

Priestley, J.