

# Errata for The Feynman Lectures on Physics Volume II New Millennium Edition (7<sup>th</sup> printing)

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

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**II:iii, par 9**

In the early 1950s Leighton played a key role in showing the mu-meson decays into two neutrinos and an electron, ...

Outdated terminology (“mu-meson” vs. “muon”).

In the early 1950s Leighton played a key role in showing the muon decays into two neutrinos and an electron, ...

**II:4-9, Eq 4.32**

$$\int_{\text{any surface } S} E_n da = \begin{cases} 0; & q \text{ outside } S \\ \frac{q}{\epsilon_0}; & q \text{ inside } S \end{cases} \quad (4.32)$$

Needs clarification and consistency with Eqs. 4.34 and 4.35.

$$\int_{\substack{\text{any closed} \\ \text{surface } S}} E_n da = \begin{cases} 0; & q \text{ outside } S \\ \frac{q}{\epsilon_0}; & q \text{ inside } S \end{cases} \quad (4.32)$$

**II:10-3, par 4**

The constant of proportionality, which depends on the ease with which the electron are displaced, will depend on the kinds of atoms in the material.

Typo (“electrons are” vs. electron are”).

The constant of proportionality, which depends on the ease with which the electrons are displaced, will depend on the kinds of atoms in the material.

**II:12-10, par 4**

The solution of the fluid flow problem can be written simply as...

This sentence should not be indented.

**II:12-10, par 5**

Suppose there is a light source at the distance  $a$  above a plane surface. What is the illumination of the surface? That is, what is the radiant energy per unit time arriving at a unit area of the surface? (See Fig. 12-9.)

Inconsistency ('z' vs. 'a'). In Fig. 12-9 the distance above the plane is labeled 'z', not 'a', and 'z' is used in the following text.

Suppose there is a light source at the distance  $z$  above a plane surface. What is the illumination of the surface? That is, what is the radiant energy per unit time arriving at a unit area of the surface? (See Fig. 12-9.)

**II:28-12, par 2**

There is another particle in the world called a muon —or  $\mu$ -meson— ...

Outdated terminology ("μ-meson" vs. "muon").

There is another particle in the world called a muon ...

**II:35-11, par 2**

When a proton flips from an upper energy state to a lower one, it will give up the energy  $\mu_z B$  which, as we have seen, is equal to  $\hbar\omega_p$ .

Incorrect statement. The energy of the states is  $\pm\mu_z B$  and the difference is  $2\mu_z B$ .

When a proton flips from an upper energy state to a lower one, it will give up the energy  $2\mu_z B$  which, as we have seen, is equal to  $\hbar\omega_p$ .

**II:42-14, par 5**

From the measured area of a sphere we can define a predicted radius,  $\sqrt{A/4\pi}$ , but the actual measured radius will have an excess over this which is proportional (the constant is  $G/c^2$ ) to the total mass contained inside the sphere.

Missing constant '3', per Eq. (42.3).

From the measured area of a sphere we can define a predicted radius,  $\sqrt{A/4\pi}$ , but the actual measured radius will have an excess over this which is proportional (the constant is  $G/3c^2$ ) to the total mass contained inside the sphere.