

In chapter 15, there are too many Greek letters. The chapter would be clearer if you used the first letters of the Latin alphabet for the group indices, reserving the Greek letters for the space-time indices. American students read English letters more easily than Greek ones.

In Sections 15.2 and 15.3, the logic would be clearer if you made more use of matrix notation:

$$A^\mu = t_a A_a^\mu$$

$$D_\mu = \partial_\mu I - iA_\mu$$

and

$$F^{\mu\nu} = t_a F_a^{\mu\nu},$$

for then you could write

$$[D_\mu, D_\nu] = -iF_{\mu\nu}$$

and

$$[D_\lambda, F_{\mu\nu}] = t_a D_{\lambda ab} F_{\mu\nu b},$$

from which students could derive Eq.(15.3.9) from the generic Jacobi identity without going blind.

Section 15.3, page 13: In Eq.(15.3.5), the first index α really is the index on the covariantly differentiated field strength, $(D_\lambda F^{\mu,\nu})_\alpha$ – or better yet, $(D_\lambda F^{\mu,\nu})_a$. This situation occurs also in Eqs.(15.3.6), (15.3.8), and (15.3.9) as well as in the display equation between (15.3.7) and (15.3.8).

Section 15.3, page 13: In Eq.(15.3.9), the second F should read $F_{\alpha\lambda\mu}$.

Chapter 15, page 58: In problem 1, as on page 13, Eq.(15.3.9), the second F should read $F_{\alpha\lambda\mu}$.

Section 15.7, page 31: In the second line of text after Eq.(15.7.23), the omega needs a star, $\delta_\theta \omega_a^*$, in which I have used 'a' instead of 'alpha' because the reader is driven batty by all the Greek letters.

Section 15.7, page 31: In Eq.(15.7.24) the letter s should be preceded by a minus sign and in Eq.(15.7.25) the plus should be minus.

Section 15.7, on pages 33 and 34, the field A_μ is a quantum field, and so the creation operator should be a^\dagger as in volume I. This problem occurs many times – in Eqs.(15.7.33-34,36,36+,36++,38-39) as well as in the first line of text after Eq.(15.7.35). Now in fact the same problem arises more subtly in the case of ω and ω^* which is to be interpreted as the variable conjugate to ω if I understand things correctly. So here I'd suggest leaving the asterisk on omega but using daggers instead of asterisks on the operators b and c.

Section 15.7, page 34: The operator a or a^\dagger needs a μ index in the first line after Eq.(15.7.35) and in the first display equation after Eq.(15.7.36). Also the central part of the latter equation should be divided by ξ .

Section 18.2, page 121: In Eq.(18.2.10) it would be slightly clearer if the variable of integration g carried the subscript μ in its two appearances.

On the same page, in the first line of the last paragraph, the word "approximation" should be followed by a comma. And in the last line of the same paragraph, the comma ought to be omitted.

Section 18.2, page 122: I do not see the reason for the middle term with all the i 's and π 's in Eq.(18.2.14).

On the same page, in third line of the only complete paragraph, "by use of" should be "by the use of."

Section 18.2, page 129: In Eq.(18.2.49), the ratio $32/3$ should be $32/72 = 4/9$.

Section 18.3, page 139: The second term of the first polynomial within square brackets in the first line of Eq.(18.3.30) should be $2a\tilde{g}$ and not $2a\tilde{g}^2$.

Section 18.4, page 140: In the first line after Eq.(18.4.1), I'd prefer the special-purpose plural " g 's" to " gs ."

In the penultimate line of that same paragraph, instead of British usage, I'd suggest American usage in which the period precedes the quote in the phrase 'limit cycles.'

In the last line of that page, before the footnote, I'd prefer "none ... vanishes" to "none ... vanish."

Section 19.2, page 169: In the second line after Eq.(19.2.14), a hyphen would be nice in the phrase "effective-action formalism."

On page 171 in the last line of the unnumbered display equation immediately before Eq.(19.2.32), the variable y should be \mathbf{y} . And Eq.(19.2.32) needs the differential $d\mu^2$ added after the integral sign.

Section 19.4, page 186: In the last line (before the footnotes) "low energy" should be "low-energy."

Section 21.3, page 307: In the first complete paragraph, the reference should be to "the charge (21.3.9)" not (21.3.7). Also in the sentence that contains Eq.(21.3.18), "Eqs.(21.3.16) and (21.3.17)" should be "Eq.(21.3.15)."

Section 21.3, page 309: In the penultimate sentence, the verb 'involve' is repeated, "also involve at least involve."

Section 21.3, page 312: The \mathcal{Q} 's in Eqs.(21.3.41) and (21.3.42) are different; perhaps the easiest thing to do is to write the one in Eq.(21.3.41) as \mathcal{Q}_L .

Section 21.6, page 333: In Eq.(21.6.8) the subscript on $\dot{\phi}(x)$ should be omitted.

Section 21.6, page 335: In the line that is 3 lines above Eq.(21.6.13), the phrase "the canonical conjugate to" should be "canonically conjugate to."