Errata: QFT and CMT

I am grateful to Ben Strekha for bringing the following to my attention.

Important errata in **boldface**

Chapter 1

page 6, equation (1.41) shouldn’t have a $T$ in the denominator

page 9, 3 lines below equation (1.58), $d = 3N - 1 \simeq 3N \rightarrow d - 1 = 3N - 1 \simeq 3N$

**page 16**, Equation (1.120)

$$\sum_i p_i dE_i = \sum_i \frac{dE_i}{dV}dV$$

(is currently missing a $dV$ in the numerator on the right hand side).

Chapter 2

**page 23**, equation (2.23) and (2.24) $dh \rightarrow \partial h$ and $d^2 h \rightarrow \partial^2 h$ in the denominators

**page 24**, equation (2.25):

$$E = -J \sum_{i=0}^{N-1} s_i s_{i+1}$$

(currently missing the $i = 0$ in the limit of the sum)

**page 25**, equation (2.28) the right hand side lower limit on sum: $t_i = \pm \rightarrow t_i = \pm 1$

Chapter 3

**page 31**, second line. $U(x, x': t) \rightarrow U(x, x'; t)$

**page 32**, equation (3.22) should have an index $n$ for the sum:

$$U(\tau) = \sum_n |n\rangle\langle n| e^{-\frac{1}{\hbar}E_n\tau}$$

**page 37**, equation (3.58).

$$\langle s_i \rangle = \langle 0|\sigma_3|0 \rangle = \langle s \rangle$$

**page 38**, in the sentence continuing after (3.60) $\exp(2K*) \rightarrow \exp(-2K*)$.

Chapter 5

**page 57**, equation (5.24) $\exp(-iS_c/\hbar) \rightarrow \exp(iS_c/\hbar)$.

Chapter 6

**page 73**, equation (6.2) drop the comma in $|\theta, \phi>$

**page 89**, equation (6.118) drop the vertical bar in $e^{-\beta H}|...$

**page 90**, equation (6.127) $\Psi(0) \rightarrow (\Psi(0)$.

**page 92**, equation (6.142):

$$G(\omega_n) = -\frac{1}{\beta} \int_0^{\beta} e^{i\omega_n \tau} e^{-(\Omega_0 - \mu)\tau} (1 - n_F(\Omega_0 - \mu))d\tau$$

(currently $d\tau$ is missing the integration measure $d\tau$.

**page 96**, equation (6.176)

$$\int_{-\infty}^{\infty} e^{-\frac{1}{2}mx^2 + Jx}dx = \sqrt{\frac{2\pi}{m}} \exp \left[ \frac{J^2}{2m} \right].$$
(currently is missing the integration measure $dx$)

Chapter 10

Page 160, equation (10.18) is missing an "=" sign after $\lim$

Page 162, Eqn. 10.27, the right hand side should be $+$ instead of $\ln |r - r'|$.

Page 165, equation (10.36) $e^S(s) \to e^S(s)$

Page 167, second to last paragraph before 10.2.3 $t_i = s_is_{i+1} \rightarrow t_i = s_is_{i+1}$.

Chapter 11

Page 173, Eqn. 10.61 RHS should read $\sum g\langle i|\mathcal{O}|j\rangle$.

Page 190, equation (11.44), exponent on right hand side: $K' (s_0s_1 + \cdots) \to K'(s_1s_2 + \cdots)$

Page 194, Figure 11.3 second $K + \Delta K$ should be $K + \Delta K'$

Chapter 12

Page 205, equation (12.36) $3u_0 \to 4u_0$.

Chapter 13 page 226, equation (13.11) $S^*_0(\phi_f) \to S^*(\phi_f)$

Page 226, equation (13.15) drop the comma after $\phi$

Page 226, equations (13.17) and (13.18) $s \to s$.

Page 230, equation (13.44) $u_0 \to \frac{u_0}{2\lambda_0}$

Page 232, equation (13.53) $u_0 \to u_0$

Page 235 before equation (13.76) "the $u_0$ term in Eq. (13.66)" $\to$ the "$u_0$ term in (13.67)".

Page 237, equation (13.93) in the argument of $\phi'$, $0/s \to 0 \cdot s$.

Page 240, equation (13.111) $t \to |t|$.

Page 243, equation (13.134)

\[ \frac{du_0}{dl} = (4 - d)u_0 + \mathcal{O}(u_0^2) = \varepsilon u_0 + \mathcal{O}(u_0^2) \]

Page 249, equation (3.157), (13.161), (13.162): need = sign after limits:

\[ u(t) \lim_{t \to \infty} = \frac{1}{bl} \]

\[ r_0(l) \lim_{l \to \infty} = -\frac{a}{2bl} \]

\[ u_0(l) \lim_{l \to \infty} = \frac{1}{bl} \]

Chapter 14

Page 259, right after equation (14.51) $l_0^2 \to \lambda_0^2$

Page 260, equation (14.52) and a sentence between (14.52) and (14.53) $l_0^2 \to \lambda_0^2$.

Page 260, after equation (14.53) $l_0^2 \to \lambda_0^2$

Page 260, equation (14.54) $\lambda^2 \to -\lambda^2$

Page 261, equation (14.60) $B(m_0^2 \to B(m_0..), \ldots)$ and in the mini-paragraph following (14.60).

Page 261, equation (14.61) and (14.62) $l_0^2 \to \lambda_0^2$

Page 277, on (14.113), $d \to \partial$, in the next line $\partial \to d$

Chapter 15
page 287, equation (15.12) $e_2 \rightarrow \varepsilon_2$.

page 292 In the RHS $\int_0^\pi \rightarrow \frac{1}{2\pi \delta(0)} \int_0^\pi$

Chapter 16, page 306, last paragraph: “could” repeated

Chapter 17 page 321, equation ((17.11) $\exp(ipx) \rightarrow \exp(-ipx)$

page 332, equation (17.102)

\[ \ldots = \frac{1}{2} \left[ (\partial_y \phi)^2 + (\partial_x \phi)^2 \right], \]

(currently is missing a ”(“ on the x-derivative term.)

page 314 Eqn. 16.38 should read $\chi = \frac{\chi_0}{1 + F_{0\chi \phi}}$

page 329, equation (17.76) $\phi^2_+ \rightarrow \phi^2_+(0)$.

page 360 equation 18.168 $\delta \rightarrow \sqrt{\delta}$ within arctan.

page 360 LINE ABOVE equation 18.171:
What if we start on the line $x = -y$?