ERRATA CORRIGE (January, 26th 2016)

Spectral Theory and Quantum Mechanics – With an Introduction to the Algebraic Formulation

1st English edition, by V. Moretti (translated by S. Chiossi),
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A list of mathematical (and of other kinds) misprints and corresponding corrections appears below. I usually update the list as soon as anyone points out errors to me.
Please make me aware of any error/typo you are able to spot, sending an email message to: ***valter.moretti@unitn.it***.
I'll thank you by adding your name to the ackonowledgments in the preface of the next edition of the book (if any) as well as to the list below.
As a general overall comment for mathematicians, adopting the standard notation of physicists, throughout the book it is assumed that

$$\hbar := \frac{h}{2\pi}\,.$$

Page and line/position	**Errata**	**Corrige**
11, in **Remark 1.4 (2)**	...of (infnitely many) closed...	...of (arbitrarily many) closed...
11, in **Remark 1.4 (3)** 4th line	...of $\mathbb{R}$ or $\mathbb{C}$.	...of $\mathbb{R}$.
11, in Eq.(1.2)	$B_\delta := \{x \in \mathbb{K}^n \mid \|\|x\|\| < \delta\}$	$B_\delta := \{x \in \mathbb{K}^n \mid \|\|x - x_0\|\| < \delta\}$.
13, 1st line	...any neighbourhood of A...	...any open neighbourhood of A...
13, in **Def 1.16 (a)**	...if $f^{-1}(A') \subset \mathfrak{T}$...	...if $f^{-1}(A') \in \mathfrak{T}$...
13,	$\inf_{k\in\mathbb{N}} \sup_{n\geq k} s_k$ $(= \lim_{k\to\infty} \sup_{n\geq k} s_k)$	$\inf_{k\in\mathbb{N}} \sup_{n\geq k} s_n$ $(= \lim_{k\to\infty} \sup_{n\geq k} s_n)$
13,	$\inf_{k\in\mathbb{N}} \inf_{n\geq k} s_k$ $(= \lim_{k\to\infty} \inf_{n\geq k} s_k)$	$\inf_{k\in\mathbb{N}} \inf_{n\geq k} s_n$ $(= \lim_{k\to\infty} \inf_{n\geq k} s_n)$
15, btwn **Prop.1.23** and **Thm 1.24**	$supp(f) := \overline{\{x \in \mathsf{X} \mid f(x) = 0\}}$	$supp(f) := \overline{\{x \in \mathsf{X} \mid f(x) \neq 0\}}$
15, **Prop.1.23**	...to the compact Hausdorff space	...to the Hausdorff space
15, **Def.1.26**	...disjoint open sets.	......disjoint open sets different from $\emptyset$ and X.
18, (f), (g) **Prop.1.36** (4 times)	$\sup_{n\in\mathbb{N}} f(x)$	$\sup_{n\in\mathbb{N}} f_n(x)$
18, 2 lines above **Prop.1.36**	$=: +\infty$	$:= +\infty$
21, in Proof of **Prop1.45**	$0 = \mu(K) \leq \mu(A_1) + \ldots$	$0 \leq \mu(K) \leq \mu(A_1) + \ldots$
21, in **Def.1.46**	$\mu(E) = \emptyset$	$\mu(E) = 0$
22, **Remark 1.47 (3)** lines 3,4	...where $f(x)$ does not coincide ...might not exist),...	...where the limit does not exist,...
23, top	$\int_{\mathsf{X}} s_n(x) d\mu(x)$	$\int_{\mathsf{X}} s(x) d\mu(x)$
28, penultimate line in **Prop.1.65**	$\mu_n(F \setminus G)$	$\mu_n(G \setminus F)$
28, last line in **Prop.1.65**	...of open sets.	...of resp. closed and open sets.
30, penultimate line	$\mu_{pa}(S) := \sum_{x\in P\cap S} \mu(P_\mu \cap S)$	$\mu_{pa}(S) := \mu(P_\mu \cap S)$
31, 3rd line in **1.4.7** from the top	$F \in \sigma(\mathsf{Y})$	$F \in \Sigma(\mathsf{Y})$
42, main formula in **Prop. 2.17**	$\|\|f\|\|_\infty := \sup_{x\in\mathsf{X}} \|\|f(x)\|\|$	$\|\|f\|\|_\infty := \sup_{x\in\mathsf{K}} \|\|f(x)\|\|$
55, immediately above **Thm 2.40**	that linear operators are	that *bounded* operators are

63, 6 lines above **Corollary 2.55**	functional on X' for which	functional on X' so that
69, 3rd line, proof of **Thm 2.76**	just a real number	just a complex number
70, **D3** in **Definition 2.78**	$d(x,z) \le d(x,y) + d(y,x)$.	$d(x,z) \le d(x,y) + d(y,z)$.
72, **(b)** 11 lines blw **Def. 2.86**	$\cap_{n=1,2,\ldots} p_n^{-1}(0) = 0$.	$\cap_{n=1,2,\ldots} p_n^{-1}(0) = \{0\}$.
130, Sect.3.4, 4th line from top	...2.96, and the subsequent... ...5.17, we provide...	...2.96, we provide...
171, above Eq.(4.4)	...is the maximum $\Lambda \in$...	... is $\Lambda \in$...
194, 14th line from the top	This is still true even true if A is not self-adjoint	With a clarification, this is still true even if A is not self-adjoint
194, 2nd line in **Thm 4.39**	m_λ is the dimension of the λ-eigenspace	m_λ is the algebraic multiplicity of the eigenvalue λ
211, (ii) in **Def 5.4** and below	Tx_n... and $y = Tx$	Ax_n... and $y = Ax$
242, line below Eq. (6.3)	...quantum (see below) .	...quantum (see below) and $\hbar := \frac{h}{2\pi}$.
248, 4 lines above Sect. **6.5**	...allowed only physical states...	...allowed only **in** physical states...
260, (a) in **Definition 7.8**	$) \wedge (a \vee b)$ ... $) \vee (a \wedge b)$	$) \wedge (a \vee c)$ ... $) \vee (a \wedge c)$...
280, (4) in **Remark 7.26**	$I + \sum_{i=2}^3 n_i \sigma_i$	$I + \sum_{i=1}^3 n_i \sigma_i$
280, Eq. (7.16)	$I + \sum_{i=2}^3 u_i \sigma_i$	$I + \sum_{i=1}^3 u_i \sigma_i$
311, 2 lines above **Thm.8.4**	if $T : D(H) \to H$	if $T : D(T) \to H$
320, (a) in **Prop.8.19**	$\sigma(a) = \sigma(a)^{-1} :=$	$\sigma(a^{-1}) = \sigma(a)^{-1} :=$
323, 3rd line above (8.10)	Since $\phi_a(p) = p(a)$ is self-adjoint and hence normal, by virtue of...	Since a is self-adjoint, $\phi_a(p) = p(a)$ is normal. By virtue of...
326, Proof of (b) **Thm** 8.22	The claim is immediately...space	See Prop. 2.3.1 in [BrRo02]I
332, 2nd line from the top	$\chi_z(f) := \sum_{n \in n\mathbb{Z}} f(n) z^n$	$\chi_z(f) := \sum_{n \in \mathbb{Z}} f(n) z^n$
394, item (i) in **Thm 9.10**	$\lambda \in \sigma_p(T)$	$x \in \sigma_p(T)$
394, item (ii) in **Thm 9.10**	$\lambda \in \sigma_c(T)$	$x \in \sigma_c(T)$
460-461, various equations	$\|m\| \le 2l + 1$ (**7 occurrences**)	$\|m\| \le l$ (in all occurences)
501, item (b) in **Thm 11.24** 2nd line	$U(\mathbf{t})V(\mathbf{u})3= V(\mathbf{u})U(\mathbf{t})e^{i\mathbf{t}\cdot\mathbf{u}}$ (missed text)	$U(\mathbf{t})V(\mathbf{u}) = V(\mathbf{u})U(\mathbf{t})e^{i\mathbf{t}\cdot\mathbf{u}}$, $U(\mathbf{t})^* = U(-\mathbf{t}), V(\mathbf{u})^* = V(-\mathbf{u})$

514, text under Eq. (11.59)	...is a faithful (one-to-one) and irreducible	...is an irreducible
514, Text of Prop. 11.32	...(11.60) holds (missed text), has...	..(11.60) holds and $H(1,\mathbf{0},\mathbf{0}) = eI$ ha
514, Text of Prop. 11.33	...satisfying (11.60) (missed text)...	satisfying (11.60) and $H(1,\mathbf{0},\mathbf{0}) = eI$
521, last line	...will deal with the first kind, and tackle the static type...	...will deal with the second kind, and tackle the dynamical type...
535, text in Eq. (12.13)	for every pure state	for every state
550, 4th line in **Def12.26**	...injective homomorphism $U(1)$...	...injective map $U(1)$...
552, footnote 6	... if it is *not* (missed text) of the form...	... if it is *not* a convex combination of states of the form...
556, 3rd line from the top	... $= -\|b\|\psi_1(\psi_1\|\ \ ) + \|b\|\psi_2(\psi_2\|\ \ )$.	... $= -\|b\|\phi_1(\phi_1\|\ \ ) + \|b\|\phi_2(\phi_2\|\ \ )$,
556, 4th line from the top	(missed text)This is the spectral...	for a pair of orthonormal vectors ϕ_1, ϕ_2 in the span of ψ_1 and ψ_2. This is the spectral...
556, 5th line from the top	$\|b\|\psi_1(\psi_1\|\ \ ) + \|b\|\psi_2(\psi_2\|\ \ ) = \|b\|I,$	$\|b\|\phi_1(\phi_1\|\ \ ) + \|b\|\phi_2(\phi_2\|\ \ ) = \|b\|I.$
556, 4th line from bttm	Set $\rho_1 :=$... for Definition 12.31.	The group product continuity and $tr(\gamma_0(\rho)\gamma_g(\rho)) = tr((\rho)\gamma_{g_0^{-1}g}(\rho))$ yield continuity as in Def 12.31 for $\rho_1 = \rho_2$. The result extends to $\rho_1 \neq \rho_2$ if exploiting Cauchy-Schw inequality for the Hilbert-Schmidt scalar product: $tr(\rho_1(\gamma_g(\rho_2) - \gamma_{g_0}(\rho_2)))$.
672, **Prop**. 14.4, 2nd line	...if and only if the Gelfand ideal is trivial	... if the Gelfand ideal is trivial

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