Errata

G. Teschl,

Mathematical Methods in Quantum Mechanics

With Applications to Schrödinger Operators

Graduate Studies in Mathematics, Vol. 99
American Mathematical Society, Providence, Rhode Island, 2009

The official web page of the book:
`http://www.mat.univie.ac.at/~gerald/ftp/book-schroe/`

Please send comments and corrections to
`Gerald.Teschl@univie.ac.at`

Updated as of March 10, 2009

Errata

Changes appear in yellow. Line $k+$ (resp., line $k-$) denotes the kth line from the top (resp., the bottom) of a page.

Page 25. Proof of Lemma 0.27: $A = \{x | f(x) \neq 0\} = \bigcup_n A_n$

Page 50. Equation (1.49) should read:

$$\operatorname*{s-lim}_{n\to\infty} A_n = A \quad :\Leftrightarrow \quad A_n\psi \to A\psi \quad \forall \psi \in \mathfrak{D}(A) \subseteq \mathfrak{D}(A_n). \tag{1.49}$$

Page 64. Third example: In particular, if $A(x)$ is real-valued, then A_0 is essentially self-adjoint

Page 64. Last sentence of the third example: $\mathfrak{D}(A) \subseteq \mathfrak{D}(\overline{A_0})$

Page 76. Proof of Lemma 2.16: $\|R_A(z_n)\varphi_n\|\|\varphi_n\|^{-1} \to \infty$

Page 122. Theorem 4.13: $\sigma(A) \cap (\lambda_1, \lambda_2) = \{E\}$

Page 187. Last paragraph in the proof of Lemma 9.4: Then we have $\mathfrak{D} \subseteq \mathfrak{D}(A_0^{**}) = \mathfrak{D}(\overline{A}_0)$ by (9.7).

Page 190. Lemma 9.7: Then there exists a solution $u_a(z, x)$ of $(\tau - z)u = 0$ which is in $L^2((a, c), r\,dx)$

Page 200. Equation (9.48) should read:

$$S_E(\lambda) = \begin{cases} \|s(E)\|^2, & \lambda = E, \\ 0, & \lambda \neq E. \end{cases} \tag{9.48}$$

Page 207. Second paragraph in Lemma 9.22: Let $c \in (a, b)$.

Page 209. Equation (9.88) should read:

$$\varepsilon = (2\|s(\lambda)\|_{(a,x)}\|c(\lambda)\|_{(a,x)})^{-1} \tag{9.88}$$

Page 215. Equation (9.111) should read:

$$\sigma_{ac}(A) = \overline{N_a(\tau) \cup N_b(\tau)}^{ess}. \tag{9.111}$$

Page 215. Equation (9.118) should read:

$$\int_n^{n+1} |q(x)|dx \leq \Big(\int_n^{n+1} |q(x)|^2 dx \Big)^{1/2}. \tag{9.118}$$