Errata

Preface

▷ *p.*ix – *line 12. Replace* many on occasions *with* on many occasions

Chapter 1

▷ *p.2 – line 6 from bottom. Replace* hold *with* holds

▷ *p.8 – line 8. Delete "a"* [Let $\approx$ be an equivalence...]

▷ *p.9 – line 4 from bottom. Replace* has lower *with* has a lower

▷ *p.10 – line 5 (above Section 1.6). Insert after "Note that"*
if for every pair x_1, x_2 in X either $x_1 \leq x_2$ or $x_2 \leq x_1$, then

▷ *p.12 – line 3 (Proof of Theorem 1.2). Replace* $x \in A_0 A$ *with* $x \in A_0$

▷ *p.12 – line 23 (above Section 1.7). Insert* (equipped with its natural ordering)
[... integers (equipped with its natural ordering) is well-ordered.]

▷ *p.18 – lines 18, 19 (between Proposition 1.8 and Theorem 1.9). Replace twice*
nonempty set *with* set with more than one element

▷ *p.18 – line 23 (between Proposition 1.8 and Theorem 1.9). Replace*
nonempty sets *with* sets with more than one element

▷ *p.19 – line 16. Replace* , where $\varnothing \neq A_0 \subseteq X$ *with* so that $A_0 \subseteq X$

▷ *p.19 – line 19 (Proof of Theorem 1.9). Replace*
which implies that the nonempty set A_0 is an infinite set. *with*
where A_0 is an infinite (at least countably infinite) set.

▷ *p.24 – line 6 from bottom (Problem 1.2(a)). Replace* $=$ *with* $\supseteq$

▷ *p.26 – line 18 (Problem 1.12). Insert after "proper subset of Y."*
Apply this to show that a finite set has no proper equivalent subset.

▷ *p.26 – lines 1–4 from bottom. Displayed formulas in Problem 1.13 should read:*
$A\,R_1\,B$ if $A \triangledown B = \varnothing$ (i.e., if $A = B$),
$A\,R_2\,B$ if $A \triangledown B$ is finite,
$A\,R_3\,B$ if A and B are singletons,
$A\,R_4\,B$ if $A \subseteq B$ or $B \subseteq A$ (i.e., if $A \backslash B = \varnothing$ or $B \backslash A = \varnothing$),
$A\,R_5\,B$ if $A \subseteq B$ (i.e., if $A \backslash B = \varnothing$).

▷ *p.28 – line 15 (Problem 1.17(b)). Replace* $F \wedge G$ on $\mathcal{F}$ *with* $F \wedge G$ in $\mathcal{F}$

▷ *p.32 – lines 4, 5 (Problem 1.26). Replace*
nonempty sets *with* sets with more than one element

▷ *p.32 – lines 7, 8 (Problem 1.26(a)). Replace*
(nonempty) finite sets *with* finite sets with more than one element

Chapter 2

▷ *p.54 – line 10 from bottom (Example 2K). Replace* $A \backslash \{s\}$ *with* $A \backslash \{x_s\}$

▷ *p.61 – line 17 (Example 2K, 5th displayed equation). Replace* y_j *with* y_i

▷ *p.64 – line 11. Replace* denotes *with* denote

▷ *p.65 – line 8. Replace* such the diagram *with* such that the diagram

▷ *p.67 – line 6 from bottom. Replace* $\mathcal{M}$ and $\mathcal{M}$ *with* $\mathcal{M}$ and $\mathcal{N}$
▷ *p.79 – line 18 (Problem 2.19, first line). Replace* let *with* Let

Chapter 3

▷ *p.88 – line 9 (Proposition 3.2). Replace* Let S be set *with* Let S be a set
▷ *p.90 – line 4 from bottom (Example 3D). Replace* d_∞ *with* $d_\infty(x, y)$
▷ *p.93 – line 4 from bottom. Replace* equip *with* equips
▷ *p.93 – line 3 from bottom. Replace* rule *with* role
▷ *p.94 – last line (Example 3F). Replace* converges *with* converge
▷ *p.96 – lines 1 to 6 (Example 3G). Replace these 6 lines with the next 2 lines.*
for every $p \geq 1$. Indeed, take any $\varepsilon \in (0, \frac{1}{2}]$ and note that $g_n(\frac{1}{n} + \varepsilon) \to 0$ and $\int_0^1 |g_n(s)|^p \, ds \leq \frac{1}{n} + \varepsilon + g_n(\frac{1}{n} + \varepsilon)^p$. Hence $\int_0^1 |g_n(s)|^p \, ds \to 0$, and therefore
▷ *p.101 – line 6 (below Definition 3.9). Replace* x_0 *with* u
▷ *p.101 – line 7 (below Definition 3.9). Replace* exist *with* exists
▷ *p.117 – line 11 from bottom. Replace* be open ball *with* be an open ball
▷ *p.122 – line 5 from bottom. Replace* (a′),(a),(b) and (c) *with* (a′),(b),(c) and (d)
▷ *p.123 – line 12 from bottom (Example 3P). Replace* 3.44(c) *with* 3.44(b)
▷ *p.124 – line 14. Insert* if the subcollection is nonempty
[... a member of any base for X if the subcollection is nonempty.]
▷ *p.124 – line 11 from bottom (Proof of Proposition 3.34). Replace* X *with* x
▷ *p.125 – Proposition 3.37 items (b), (c), (d). Replace three times* $\cup$ *with* $\cap$
▷ *p.128 – line 15. Replace* in it *with* in them
▷ *p.129 – line 6 (Example 3R). Insert* space *after "metric"*
▷ *p.129 – line 6 (Example 3R). Insert* . *after "complete"*
▷ *p.132 – line 14 (first displayed formula in Example 3T). Replace* d_X *with* d_Y
▷ *p.135 – line 6 from bottom (Theorem 3.45). Replace* 3.14(a) *with* 3.14(b)
▷ *p.138 – line 3 (Corollary 3.47). Delete* . *after "X"*
▷ *p.141 – line 14 (Theorem 3.50). Delete* of *after "F" and before "over"*
▷ *p.142 – line 6 (displayed formula). Replace* $F\widetilde{J}$ *with* $FJ\widetilde{J}$
▷ *p.142 – line 9. Delete* a *after "another" and before "continuous"*
▷ *p.143 – last line. Replace* meagre *with* meager
▷ *p.144 – line 2. Replace* comeagre *with* comeager
▷ *p.144 – line 3. Replace* nonmeagre *with* nonmeager
▷ *p.145 – line 4 from bottom (Theorem 3.57). Insert* complete *before "metric"*
▷ *p.146 – line 2 (Proof of Corollary 3.57). Replace* $A \backslash X$ *with* $X \backslash A$
▷ *p.146 – line 10. Replace* second category in x *with* second category in X
▷ *p.147 – line 19 (Example 3W(a), line 2). Replace* 3.56 *with* 3.57
▷ *p.148 – line 14 (above Section 3.10). Replace* Dually, A *with* Dually, a
▷ *p.148 – line 19 (Section 3.10, line 3). Replace* of $\mathcal{A}$ *with* of A
▷ *p.153 – line 10 (Example 3X). Replace* $\aleph_0 \leq A_\varepsilon$ *with* $\aleph_0 \leq \# A_\varepsilon$

▷ *p.156 – line 2 from bottom. Replace* (Theorem 3.20) *with* (Theorem 3.30)
▷ *p.157 – line 5 from bottom. Replace* then $\mathcal{B}' \in ...$ *with* then $B' \in ...$
▷ *p.160 – line 9 from bottom (Example 3Z(i)). Delete* a *after "is"*
▷ *p.161 – line 10 from bottom. Replace* according o *with* according to
▷ *p.162 – line 20. Replace* $d_Y\big((f_n^{(n)}(a), f_n^{(n)}(x)\big) < \varepsilon$ *with* $d_Y\big(f_n^{(n)}(a), f_n^{(n)}(x)\big) < \varepsilon$
▷ *p.165 – line 14 (Problem 3.4). Replace* $p+1$ *with* $p-1$
▷ *p.167 – line 6 (Problem 3.8(b)). Replace* $R^p(S) \subset R^q(S)$ *with* $R^p(S) \subset R^r(S)$
▷ *p.167 – line 7 (Problem 3.8(b)). Replace* $\operatorname{diam}(S)^{\frac{p-r}{r}}$ *with* $\operatorname{diam}(S)^{\frac{p-r}{pr}}$
▷ *p.167 – line 13 (displayed formula). Replace* d_∞ *with* $d_\infty(x, y)$
▷ *p.167 – line 13 (displayed formula in Problem 3.9). Replace* d_k *with* d_i
▷ *p.171 – line 2 from bottom. Replace* $\to (C[0,1], d)$ *with* $\to (C[0,1], d_\infty)$
▷ *p.172 – line 7 from bottom. Replace* $(C[0,1]d_\infty)$ *with* $(C[0,1], d_\infty)$
▷ *p.172 – lines 4, 6 from bottom. Replace twice* $(C[0,1]d_p)$ *with* $(C[0,1], d_p)$
▷ *p.176 – line 16 (Problem 3.30). Insert* continuous *before "mapping"*
▷ *p.181 – lines 7, 6 from bottom. Items (b), (c) in Problem 3.42 should read:*
(b) $B_\rho(x) \subseteq B_\rho[x]^\circ$ and $\partial B_\rho[x] \subseteq \{y \in X\colon\, d(y,x) = \rho\}$.
(c) $B_\rho(x)^- \subseteq B_\rho[x]$ and $\partial B_\rho(x) \subseteq \{y \in X\colon\, d(y,x) = \rho\}$.
▷ *p.181 – line 2 from bottom (Problem 3.43(a)). Replace second* $=$ *with* $\geq$
▷ *p.183 – line 18 (Problem 3.48(a)). Replace* $\#A \leq \#B$ *with* $\#B \leq \#A$
▷ *p.183 – line 18 (Problem 3.48(a)). Replace* Problems *with* Problem
▷ *p.184 – line 8 from bottom (Problem 3.50). Insert* space *after "topological"*
▷ *p.188 – line 5 (Hint to Problem 3.56(c)). Replace* $\{\upsilon_{n(k)}\}_{i\in\mathbb{N}}$ *with* $\{\upsilon_{n(k)}\}_{k\in\mathbb{N}}$
▷ *p.192 – lines 7, 8 (Hint to Problem 3.62(b)). Replace twice* $\frac{1}{2}$ *with* $(\frac{1}{2})^{\frac{1}{p}}$
▷ *p.192 – line 12 (Hint to Problem 3.62(b)). Replace* $k \geq 1$ *with* $k \geq m$
▷ *p.192 – last line (Hint to Problem 3.63). Replace* $m \in \mathbb{N}$ *with* $n \in \mathbb{N}$
▷ *p.193 – line 3 (Hint to Problem 3.63). Replace* $V_n^- \to 0$ *with* $\operatorname{diam}(V_n^-) \to 0$
▷ *p.193 – line 11 (Problem 3.64(a)). Replace* Problems *with* Problem
▷ *p.194 – line 6 (Problem 3.66(b)). Replace*
Problems 3.42(a), Theorems 3.40 and 3.81, *with* Corollary 3.81

Chapter 4

▷ *p.198 – line 1. Replace* incorporate *with* incorporates
▷ *p.199 – line 1 (Definition 4.1). Replace* x and y in X *with* x and y in $\mathcal{X}$
▷ *p.199 – line 23 (Proof of Proposition 4.2). Insert* (iii) *after "symmetry"*
▷ *p.204 – line 16. Replace* $0 \leq \|\alpha u\| \leq |\alpha|\|u\| = 0$ *with* $\|\alpha u\| = |\alpha|\|u\| = 0$
▷ *p.206 – line 5. Replace* dicuss *with* discuss
▷ *p.210 – line 12. Insert* . *at the end of the displayed line*
▷ *p.211 – line 9. Insert* Similarly, $\alpha x \in \mathcal{M}^-$ for every scalar α.
[(see Proposition 3.27 again). Similarly, $\alpha x \in \mathcal{M}^-$ for every scalar α.]
▷ *p.212 – line 3 from bottom. Replace* $\bigvee\big(\bigcap_{\gamma\in\Gamma}\mathcal{M}_\gamma\big)$ *with* $\bigvee\big(\bigcup_{\gamma\in\Gamma}\mathcal{M}_\gamma\big)$

▷ *p.218 – lines 1 and 2 (far above Example 4H). Delete* $\leq |\alpha|\|T\|\|x\|$
▷ *p.218 – line 4 (displayed). Replace* $\|\alpha T\| \leq |\alpha|\|T\|$ *with* $\|\alpha T\| = |\alpha|\|T\|$
▷ *p.222 – line 3. Replace* $1 \leq \|P_i\|_\infty$ and $1 \leq \|P_i\|_\infty$ *with* $1 \leq \|P_i\|_\infty$ and $1 \leq \|P_i\|_p$
▷ *p.222 – line 3 (Example 4I). Replace* $P_k \neq O$ *with* $P_i \neq O$
▷ *p.224 – line 1. Insert* $T \in \mathcal{B}[\mathcal{X}, \mathcal{Y}]$ and *after "Moreover, if"*
▷ *p.225 – line 11 from bottom (above Theorem 4.21). Replace* into *with* onto
▷ *p.225 – line 6 from bottom (Proof of Theorem 4.21). Replace* de *with* be
▷ *p.226 – line 7 from bottom (Proof of Theorem 4.21). Replace* Tx_n *with* Tx_k
▷ *p.229 – line 11 from bottom (above Theorem 4.25). Replace* if *with* of
▷ *p.233 – line 9 (Proof of Theorem 4.27). Replace* $\|\boldsymbol{a}\|_\infty$ *with* $\|\boldsymbol{a}\|_\infty = 1$
▷ *p.235 – line 7 from bottom. Replace* 4.30(b) *with* 4.30, part(b))
▷ *p.237 – line 10 (Proof of Corollary 4.34). Replace* $\mathcal{B}_1[0]$ *with* $B_1[0]$
▷ *p.238 – lines 5 and 4 from bottom. Replace twice* W *with* $\widehat{W}$
▷ *p.240 – line 6 (above Theorem 4.39). Replace* arrises *with* arises
▷ *p.240 – line 9 from bottom (Proof of Theorem 4.40). Replace* $\mathcal{M}$ *with* $\mathcal{N}$
▷ *p.241 – line 9 from bottom (after Theorem 4.41). Replace* $\mathcal{B}[\widetilde{\mathcal{X}}, \widehat{\mathcal{Y}}]$ *with* $\mathcal{B}[\widetilde{\mathcal{X}}, \widetilde{\mathcal{Y}}]$
▷ *p.243 – lines 14, 16 (Proof of Theorem 4.43). Replace twice* $B_\rho(x_0)$ *with* $B_{2\rho}(x_0)$
▷ *p.243 – line 16 (Proof of Theorem 4.43). Replace* $B_\rho(0)$ *with* $B_{2\rho}(0)$
▷ *p.245 – line 4 (Proof of Proposition 4.46). Replace* $e_i \in \mathcal{B}$ *with* $e_i \in B$
▷ *p.245 – line 10 from bottom. Replace* an operator *with* a transformation
▷ *p.248 – line 4 (Example 4L). Replace* $S_- =$ *with* $S_- x =$
▷ *p.250 – line 15 (Example 4M). Replace* $\sum_{k=0}^{\infty} |\xi_k|^k$ *with* $\sum_{k=0}^{\infty} |\xi_k|^p$
▷ *p.251 – line 13 (Proof of Proposition 4.50). Replace* 4.30 *with* 4.32
▷ *p.254 – line 5 from bottom (Example 4N). Replace* Problem *with* Example
▷ *p.255 – lines 9–12 (Example 4O). 4 lines with 3 displayed formulas should read:*

$$\mathcal{B}_0[\mathcal{X}, \mathcal{Y}]^- \text{ lies in } \mathcal{B}_\infty[\mathcal{X}, \mathcal{Y}],$$

and

$$\mathcal{B}_\infty[\mathcal{X}, \mathcal{Y}] \text{ is closed in } \mathcal{B}[\mathcal{X}, \mathcal{Y}],$$

▷ *p.255 – line 18 (Example 4O). Insert after "." and before "Conclusion:"*
Moreover, strong convergence to compact diagonals was shown in Problem 4.53.
▷ *p.255 – line 20 (Example 4O). Replace* which implies that *with* and
▷ *p.256 – line 1 (Proof of Proposition 4.56). Replace* 4.52(b) *with* 4.52(f)
▷ *p.259 – line 9 from bottom (Proof of Lemma 4.59). Replace* $f(x)$ *with* $f_1(x)$
▷ *p.262 – line 9 (Proof of Theorem 4.61). Replace* $ig(x)$ *with* $ig(ix)$
▷ *p.267 – line 10 from bottom (Example 4Q). Replace* **3Q** *with* **4Q**
▷ *p.268 – line 18 (Example 4S, line 4). Replace* space *with* spaces
▷ *p.269 – line 19 (Problem 4.1(a)). Replace* each α *with* each nonzero α
▷ *p.270 – line 10 from bottom (Problem 4.3(iii')). Replace* $\alpha \leq 1$ *with* $|\alpha| \leq 1$
▷ *p.276 – line 10 from bottom (Problem 4.11). Replace* $\sum_{1=0}^{n}$ *with* $\sum_{i=0}^{n}$
▷ *p.281 – line 15 (Problem 4.19). Replace* if the identity *with* of the identity

▷ *p.288 – line 2 (Problem 4.31). Replace* $L \in \mathcal{L}[\mathcal{X}, \mathcal{Y}]$ *with* $L \in \mathcal{L}[\mathcal{M}, \mathcal{Y}]$
▷ *p.288 – line 11 (Hint to Problem 4.31). Insert*) *after "*$\mathcal{Y}$*" and before "."*
▷ *p.290 – line 14 (Problem 4.35). Replace* Theorem 2.12 *with* Theorem 2.19
▷ *p.290 – line 4 from bottom (Problem 4.35). Replace* $\subset$ *with* $\subseteq$
▷ *p.293 – last line (Problem 4.40). Replace* This called *with* This is called
▷ *p.294 – line 4 (displayed formula, Problem 4.41). Replace*
$\|TV\| = \|T\|$ and $\|VS\| = \|S\|$ *with*
$\|VS\| = \|S\|$ and $\|TV\| = \|T\|$ if V is surjective
▷ *p.294 – line 4 from bottom (Problem 4.43). Replace* X *with* $\mathcal{X}$
▷ *p.299 – line 12 (Problem 4.52). Replace* $B[\ell_+^p]$ *with* $\mathcal{B}[\ell_+^p]$

Chapter 5

▷ *p.312 – line 19 (above Definition 5.1). Replace* $v \in \mathbb{F}$ *with* $v \in \mathcal{X}$
▷ *p.314 – line 2 from bottom. Replace* inner space *with* inner product space
▷ *p.319 – line 9 (Example 5B). Replace* $\langle\ ,\ \rangle$ *with* $\langle\ ;\ \rangle$
▷ *p.319 – last line (Example 5C). Replace* Example 3D *with* Example 4D
▷ *p.321 – line 12 (Example 5D). Replace* since every *with* for every
▷ *p.324 – line 14 (displayed formula below Definition 5.7). Replace* $=$ *with* $\subseteq$
▷ *p.326 – line 14 from bottom. Replace* and *with* And
▷ *p.326 – lines 3 and 2 from bottom. Replace three times*
$(\mathcal{M}\langle\ ;\ \rangle)$ *with* $(\mathcal{M}, \langle\ ;\ \rangle)$ *and* $(\mathcal{M}\langle\ ;\ \rangle_M)$ *with* $(\mathcal{M}, \langle\ ;\ \rangle_M)$
▷ *p.327 – line 5. Replace* Proposition 4.4 *with* Proposition 4.7
▷ *p.332 – line 5 (above Corollary 5.14). Replace* in x in $\mathcal{H}$. *with* x in $\mathcal{H}$.
▷ *p.332 – lines 12 and 5 from bottom. Replace twice* $M^{\perp\perp}$ *with* $\mathcal{M}^{\perp\perp}$
▷ *p.333 – line 16 (Example 5H, line 6). Replace* $\{x\}^\perp$ *with* $\{z\}^\perp$
▷ *p.333 – line 25 (Example 5H, line 15). Replace* scalar *with* nonzero scalar
▷ *p.336 – line 4. Replace* Corollary 5.10 *with* Corollary 5.11
▷ *p.339 – line 5 (Proof of Proposition 5.19). Replace* v is $\mathcal{N}$ *with* v in $\mathcal{N}$
▷ *p.341 – line 1 (Statement of Theorem 5.23). Delete* operator
▷ *p.342 – line 1 (Proof of Proposition 5.24). Delete* . *after "equivalent"*
▷ *p.346 – line 8 (Proof of Corollary 5.28). Replace* $\cup$ *with* $\cap$
▷ *p.347 – line 4 from bottom (displayed formula, line 2). Replace* $=$ *with* $\leq$
▷ *p.349 – line 10 (Proof of Proposition 5.31). Replace* Suppose *with* suppose
▷ *p.349 – line 10 (Proof of Proposition 5.31). Replace* $\sum_{N\in\Gamma}$ *with* $\sum_{k\in N}$
▷ *p.349 – line 11 (Proof of Proposition 5.31). Replace* $< \alpha - \varepsilon$ *with* $> \alpha - \varepsilon$
▷ *p.352 – line 17 (Proof of Proposition 5.33). Replace* $\langle x_0\,;x_i\rangle$ *with* $\langle x_i\,;x_0\rangle$
▷ *p.356 – line 20 (Proof of Theorem 5.42). Replace* basis *with* bases
▷ *p.357 – line 18 (Proof of Proposition 5.43). Replace* an *with* a smallest
▷ *p.359 – line 13 from bottom (Example 5.L). Replace* basis *with* bases
▷ *p.359 – line 4 from bottom (Example 5.L). Replace* e_k is an *with* e_k is a

▷ *p.360 – line 7 (Example 5.L). Replace* e_k is an *with* e_k is a
▷ *p.360 – line 10 (Example 5.L). Replace* basis *with* bases
▷ *p.360 – last line (displayed formula). Replace* ε *with* ε^2
▷ *p.361 – line 11 (Proof of Theorem 5.48). Replace* If *with* if
▷ *p.361 – line 14 (Proof of Theorem 5.48). Replace* $\|e\|$ *with* $\|e\|^2$
▷ *p.363 – line 18 (Example 5L(b)). Replace* $\{\xi_j\}_{l\in\mathbb{N}}$ *with* $\{\xi_j\}_{j\in\mathbb{N}}$
▷ *p.367 – line 19 (Proposition 5.51(a)). Replace* $P \in \mathcal{B}[\mathcal{H}]$ *with* $P \in \mathcal{B}[\mathcal{X}]$
▷ *p.368 – line 3 from bottom. Replace* orthonormal *with* orthogonal
▷ *p.369 – line 12. Replace* such *with* such that
▷ *p.370 – line 4 from bottom. Replace* of next *with* of the next
▷ *p.372 – line 13 (Example 5O). Replace* orthonormal *with* orthogonal
▷ *p.374 – line 20 (above Definition 5.60). Replace* $\{\mathcal{R}(P_k)\}_{k\in\mathbb{N}}$ *with* $\{P_k\}_{k\in\mathbb{N}}$
▷ *p.376 – line 9 (Proof 5.61). Replace* (c) implies (d) *with* (c) implies (b)
▷ *p.378 – line 10 from bottom (Corollary 5.64). Replace* $\langle\ \rangle_*$ *with* $\langle\ ;\ \rangle_*$
▷ *p.379 – line 21 (above Proposition 5.65). Replace* $|f(x)|$ *with* $|f_y(x)|$
▷ *p.381 – line 24. Insert* if $\mathcal{X}$ is a Hilbert space, *before "which"*
▷ *p.386 – line 25 (Proof of Theorem 5.70, line 2). Insert* the *after "of"*
▷ *p.387 – line 8 from bottom. Replace* Theorem 5.67 *with* Proposition 5.67
▷ *p.388 – line 10 from bottom (displayed formula). Replace* $(S^*{+}T^*)$ *with* $(S{+}T)^*$
▷ *p.389 – line 14 (Example 5P, below displayed matrix). Replace* υ_n *with* υ_m
▷ *p.391 – line 14 (Prop. 5.72). Replace* An operator *with* A transformation
▷ *p.394 – line 16 (Proof of Proposition 5.77). Replace* $R(T) \subseteq$ *with* $\mathcal{R}(T) \subseteq$
▷ *p.395 – line 3 (Proof of Proposition 5.77). Replace* 5.73(b*) *with* 5.76(b*)
▷ *p.395 – line 4 from bottom. Replace* $R(TT^*)^-$ *with* $\mathcal{R}(TT^*)^-$
▷ *p.396 – line 3 from bottom (Proposition 5.78). Replace* $\langle Tx\,;x\rangle$ *with* $|\langle Tx\,;x\rangle|$
▷ *p.396 – last line (displayed formula). Replace* $|\langle Tu\,;u\rangle$ *with* $|\langle Tu\,;u\rangle|$
▷ *p.399 – lines 1 and 2. Replace all* T *with* P *(five times)*
▷ *p.400 – line 13 (above Example 5R). Replace* 5.76(b*) *with* 5.76(a*)
▷ *p.402 – line 2 from bottom (Proof of Theorem 5.85). Correct:* $B_2 - B_1 = \frac{1}{8}R^2$
▷ *p.404 – line 3 from bottom. Replace* $R(P)$ *with* $\mathcal{R}(P)$
▷ *p.405 – lines 11,12 (Proposition 5.88). Insert* . *twice at the end of the lines*
▷ *p.406 – line 17 (Theorem 5.89). Replace* Corollary 5.75 *with* Proposition 5.76
▷ *p.407 – line 1 (Proof of Theorem 5.89). Replace* 4.30 *with* 4.38
▷ *p.407 – line 15 (Proof of Theorem 5.89, displayed formula). Replace* H *with* $\mathcal{H}$
▷ *p.407 – line 10 from bottom. Replace* $\mathcal{R}((T^*T)^-$ *with* $\mathcal{R}(T^*T)^-$
▷ *p.410 – last line (Problem 5.5). Replace* $|x_n(x)|$ *with* $|x_n(y)|$
▷ *p.411 – lines 21, 22 (Problem 5.6). Replace second* $x_{1(n)}$ x_1 *with* $x_{2(n)}$ x_2
▷ *p.412 – line 8 (Problem 5.8). Replace* Proposition *with* Propositions
▷ *p.415 – line 2 (Problem 5.13). Replace* $(1-\frac{1}{k^2})^2$ *with* $(1-\frac{1}{k^2})^{\frac{1}{2}}$

▷ *p.416 – line 25 (Problem 5.17). Delete* and
▷ *p.416 – line 26 (Problem 5.17). Replace* orthogonal *with* orthonormal
▷ *p.419 – lines 3 and 4 (Problem 5.22). Swap* converge *with* converges
▷ *p.419 – lines 13 and 15 (Problem 5.23). Replace twice* $\|T^n\|$ *with* $\|T_n\|$
▷ *p.419 – line 14 (Problem 5.23). Replace* Problems 5.5 *with* Problem 5.5
▷ *p.421 – line 11 (Problem 5.28). Replace* $\mathcal{B}[H_j, \mathcal{H}_i]$ *with* $\mathcal{B}[\mathcal{H}_j, \mathcal{K}_i]$
▷ *p.421 – line 6 from bottom (Problem 5.29). Replace* $\mathcal{K}_{k+1}$ *with* $\mathcal{H}_{k+1}$
▷ *p.422 – line 6. Replace* matrix of operators *with* operator matrices
▷ *p.422 – last line (Problem 5.30). Replace* $\mathcal{K}_{k+1}$ *with* $\mathcal{H}_{k+1}$
▷ *p.423 – line 11. Replace* matrix of operators *with* operator matrices
▷ *p.423 – line 4 from bottom (Problem 5.30(c)). Replace* unilateral *with* bilateral
▷ *p.423 – line 3 from bottom (Problem 5.30(c)). Replace* $\bigoplus_{k=\infty}^{\infty}$ *with* $\bigoplus_{k=-\infty}^{\infty}$
▷ *p.423 – line 2 from bottom (Problem 5.30(c)). Replace* $\bigoplus_{k-\infty}^{\infty}$ *with* $\bigoplus_{k=-\infty}^{\infty}$
▷ *p.423 – last line and p.424 – lines 2–5 (Hint to Problem 5.30(c)). Replace all* $\sum_{k=-\infty}^{-1}$ *with* $\sum_{k=-\infty}^{-\mathrm{n}/2\,-1}$ *and all* $\sum_{k=0}^{\infty}$ *with* $\sum_{k=-\mathrm{n}/2}^{\infty}$
▷ *p.424 – line 3. Replace* $\big(\sum_{k=-\infty}^{-1} \|x_{k+n}\|^2\big)^{\frac{1}{2}} \|x\|$ *with* $\big(\sum_{k=-\infty}^{-\mathrm{n}/2\,-1} \|x_k\|^2\big)^{\frac{1}{2}} \|x\|$
▷ *p.424 – line 5. Replace* $\lim_n \sum_{k=-\infty}^{-1} \|x_{k+n}\|^2$ *with* $\lim_n \sum_{k=-\infty}^{-\mathrm{n}/2\,-1} \|x_k\|^2$
▷ *p.425 – line 5 from botom (Problem 5.32(c) line 3). Delete* n
▷ *p.426 – line 2 (Problem 5.33). Replace* Example 3L(c) *with* Example 5L(c)
▷ *p.430 – line 12. Replace* $\leq |\langle (Q_n - Q)x\,;x\rangle|$ *with* $= \langle (Q_n - Q)x\,;x\rangle$
▷ *p.431 – line 19 (Hints to Problem 5.53). Replace* 5.22(d) *with* 5.52(d)
▷ *p.434 – lines 9 and 7 from bottom. Replace twice* $-Q^{1/2}))x\|$ *with* $-Q^{1/2})x\|$
▷ *p.436 – line 8 from bottom (Hint to Problem 5.66(a)). Replace* $=$ *with* $\leq$
▷ *p.437 – line 6 from bottom. Replace* $\{\langle Te_\gamma\,;e_\gamma\rangle\}$ *with* $\{\langle Te_\gamma\,;e_\gamma\rangle\}_{\gamma\in\Gamma}$

Chapter 6

▷ *p.443 – line 2 should read:* (c)⇔(d) by Propositions 4.37 and 6.1.
▷ *p.443 – line 20 (Proposition 6.4). Replace* $U{:}\mathcal{N}^\perp \to \mathcal{H}$ is unitary. *with* $U{:}\mathcal{N}^\perp \to \mathcal{N}^\perp \subseteq \mathcal{H}$ is unitary where $\mathcal{N}^\perp$ is U-invariant.
▷ *p.443 – line 24 (Proof of Proposition 6.4). Replace* $= TT^*T$ *with* $= T^*TT$
▷ *p.444, lines 17–20 (Proof of Proposition 6.4). Replace as follows.*
Since T is normal, T commutes with T^* and T. Hence $\mathcal{N} = \mathcal{N}(T)$ reduces T (Problem 5.34) and so does $\mathcal{N}^\perp$. Then $\mathcal{N}^\perp$ is V-invariant because $T = VPQ$, and so the above inclusion holds for I and VV^* in $\mathcal{B}[\mathcal{N}^\perp]$.
▷ *p.447 – line 4 (Proof of Lemma 6.8). Replace* $p_n, q_n \in \mathbb{N}$ *with* $p_n, q_n \in \mathbb{N}_0$
▷ *p.447 – lines 5 and 4 from bottom. Replace twice* every *with* for every
▷ *p.449 – line 8 from bottom (Corollary 6.11). Replace* $d(\lambda - \varsigma)$ *with* $d(\lambda\,,\varsigma)$
▷ *p.450 – line 7 (displayed formula, above Proposition 6.13). Replace* $\mathcal{R}$ *with* R
▷ *p.450 – line 9 from bottom (Proposition 6.13). Insert* If $\sigma(T)$ is empty, then [*Claim* 1. If $\sigma(T)$ is empty, then $\varphi \circ R : \rho(T) \to \mathbb{C}$ is bounded.]

▷ *p.450 – line 5 from bottom. Insert* if $\sigma(T)$ is empty *after "Theorem 3.86"*

▷ *p.452 – Diagram. — First row: Insert vertical line between* $\mathcal{R}_\lambda^- = \mathcal{X}$ *and* $\mathcal{R}_\lambda^- \neq \mathcal{X}$
— *Forth row: Replace* $T_\lambda^{-1} \in \mathcal{B}[\mathcal{R}_\lambda, \mathcal{X}]$ *with* $T_\lambda^{-1} \notin \mathcal{B}[\mathcal{R}_\lambda, \mathcal{X}]$

▷ *p.452 – line 10 from bottom (Proposition 6.14). Replace* $\{\alpha_k\}_{i=1}^n$ *with* $\{\alpha_i\}_{i=1}^n$

▷ *p.453 – line 9 from bottom (Proof of Proposition 6.16). Replace* 3.32 *with* 3.27

▷ *p.454 – lines 11 and 12 (Proof of Proposition 6.16). Replace as follows.*
Moreover, since $\lambda \in \mathbb{C}\backslash\sigma_{AP}(T)$ if and only if $\lambda I - T$ is bounded below, the same argument of Proposition 6.11 shows that $\mathbb{C}\backslash\sigma_{AP}(T)$ is open. □

▷ *p.454 – lines 7 and 5 from bottom. Replace twice* spectrum *with* spectra

▷ *p.455 – line 13 (Proof of Proposition 6.17). Replace* $\sigma_{AP}(T^*)$ *with* $\sigma_{AP}(T^*)^*$

▷ *p.456 – line 12 from bottom. Replace* $\sigma(R) \in [0,1]$ *with* $\sigma(R) \subseteq [0,\infty)$

▷ *p.456 – lines 9, 8, 6 from bottom. Replace three times* $\sigma_P(T)$ *with* $\sigma_P(P)$

▷ *p.456 – line 4 from bottom. Replace* $\rho(T)$ *with* $\rho(P)$

▷ *p.457 – line 3. Replace* $\sigma_P(T)$ *and* $\rho(T)$ *with* $\sigma_P(J)$ *and* $\rho(J)$

▷ *pp.457,458 (Proof of Theorem 6.19) Replace nine times* α_n^{-1} *with* $(-1)^{n+1}\alpha_n$

▷ *p.458 – line 3 (Proof of Theorem 6.19). Replace* $\mu \in \rho(T)$ *with* $\mu \in \rho(p(T))$

▷ *p.460 – line 10 from below (Proof of Proposition 6.21). Replace* $\mathcal{R}$ *with* R

▷ *p.461 – line 10 (above Proposition 6.22). Delete* the

▷ *p.462 – line 11 (Corollary 6.23). Delete* , and $\|(\lambda I - T)^{-1}\| \leq (|\lambda| - \|T\|)^{-1}$

▷ *p.463 – line 24 (Proof of Proposition 6.24). Insert* , *after "that is"*

▷ *p.464 – line 16 (Proof of Proposition 6.25). Replace* $W(T)$ with $W(T)^-$

▷ *p.466 – lines 4 and 5. Replace* $\|T\| = \langle Tx\,;x\rangle$ *with* $\|T\| = |\langle Tx\,;x\rangle|$

▷ *p.466 – line 23 (Example 6B). Replace* $T \in \mathcal{B}[\mathcal{H}]$ *with* $T \in \mathcal{B}[\mathcal{X}]$

▷ *p.466 – line 24 (Example 6B). Replace* manifolds *with* linear manifolds

▷ *p.467 – line 15 (Example 6C). Replace* $\sigma_R(T^*)^*$ *with* $\sigma_P(T^*)^*$

▷ *p.469 – line 10 (Example 6E – displayed). Replace* $\bigoplus_{k=\infty}^{\infty}$ *with* $\bigoplus_{k=-\infty}^{\infty}$

▷ *p.470 – line 11 (Example 6C). Replace* $(\{\alpha_k\}_{k=-\infty}^{\infty})$ *with* $\mathrm{shift}(\{\alpha_k\}_{k=-\infty}^{\infty})$

▷ *p.470 – last line (Example 6F). Replace* $\|y_k\|^2$ *with* $\|y_{k+1}\|^2$

▷ *p.471 – line 6 from bottom (Example 6G). Replace* $\subseteq$ *with* $\in$

▷ *p.472 – line 8 from bottom (Example 6G). Replace* $0 \neq \sigma_R(T)$ *with* $0 \notin \sigma_R(T)$

▷ *p.473 – line 2. Replace* matrix of operators *with* operator matrices

▷ *p.473 – line 3 from bottom (Example 6H). Replace* $\lambda \neq \sigma_P(T)$ *with* $\lambda \notin \sigma_P(T)$

▷ *p.474 – line 12 (Example 6H). Replace* Example 6E *with* Example 6D

▷ *p.474 – line 15 (Example 6H – displayed formula). Swap* $\sigma_R(T)$ *with* $\sigma_P(T)$

▷ *p.474 – lines 19,20 (Example 6H). Replace*
is not included in the boundary of the spectrum *with* has nonempty interior

▷ *p.477 – line 12 (displayed). Replace at the end of the line* , *with* .

▷ *p.477 – line 9 from bottom. Replace* Theorem 3.30 *with* Corollary 6.31

▷ *p.478 – lines 19, 20, 21 (Proof of Proposition 6.33). Replace as follows.*
compact, then Theorem 4.52 ensures that $\{\lambda_n^{-1} y_n\}$ has no bounded subsequence.

That is, $\sup_k|\lambda_k|^{-1} = \sup_k\|\lambda_k^{-1}y_k\| = \infty$, and so $\inf_k|\lambda_k| = 0$ for every subsequence $\{\lambda_k\}$ of $\{\lambda_n\}$. Thus $\lambda_n \to 0$. □

▷ *p.479 – line 9 from bottom. Replace* exists *with* exist

▷ *p.479 – line 7 from bottom. Replace* basis *with* bases

▷ *p.481 – line 13 (Proposition 6.36). Replace* $\langle P_\gamma x\,;P_\gamma x\rangle$ *with* $\langle P_\gamma x\,;P_\gamma y\rangle$

▷ *p.481 – line 2 from bottom (displayed). Replace* $\lambda\in\Gamma$ *with* $\gamma\in\Gamma$

▷ *p.481 – line 2 from bottom (displayed). Replace* $\sigma_R(T)\neq\varnothing$ *with* $\sigma_R(T)=\varnothing$

▷ *p.481 – last line (displayed). Replace* $\lambda\in\Gamma$ *with* $\gamma\in\Gamma$

▷ *p.482 – lines 1 and 3 (Proposition 6.37). Replace twice* $\sum_{\gamma\Gamma}$ *with* $\sum_{\gamma\in\Gamma}$

▷ *p.482 – line 21 (Proposition 6.37). Insert* x *after "*P_β*" and after "*$P\gamma$*"*

▷ *p.482 – line 27 (Proposition 6.37). Replace* $\rho(T)\backslash\sigma_P(T)$ *with* $(\mathbb{C}\backslash\rho(T))\backslash\sigma_P(T)$

▷ *p.483 – line 8 from bottom. Replace* Definition 4.45 *with* Corollary 4.55

▷ *p.487 – line 7 from bottom. Replace* Corollary 6.40 *with* Proposition 6.40

▷ *p.490 – line 4 from bottom. Replace* Since *with* since

▷ *p.491 – last line. Replace* Nikodým *with* Nikodým

▷ *p.492 – line 5 (Theorem 6.47, displayed formula). Replace* , *with* .

▷ *p.499 – line 6 from bottom. Delete* , *at the end of the line*

▷ *p.492 – line 13 (below Theorem 6.48). Replace* $R(P(\Lambda))$ *with* $\mathcal{R}(P(\Lambda))$

▷ *p.501 – line 12. Replace* $\mathcal{H}\neq\{0\}$ *with* $\mathcal{H}$ of dimension greater than one

▷ *p.502 – line 3 from bottom. Replace* XX^* *with* $X^*X+Y^*Y-YY^*$

▷ *p.502 – line 2 from bottom (Problem 6.16). Replace* X^*x *with* X^*u

▷ *p.503 – line 2 from bottom. Replace* Problem 6.17 *with* the above result

▷ *p.504 – line 7 from bottom (Problem 6.23). Replace* $\mathcal{M}^\perp=\varnothing$ *with* $\mathcal{M}^\perp=\{0\}$

▷ *p.506 – line 5 from bottom. Replace* , *with* . *before "Moreover"*

▷ *p.507 – lines 2–14 (Hint to Problem 6.27(b)). Replace as follows.*
Hint: Take any $0\neq\alpha\in\mathbb{R}$. Since $\alpha i\in\rho(T)$ and $(\alpha iI-T)$ is hyponormal, $\|(\alpha i-T)^{-1}\|\leq|\alpha|^{-1}$ (Problem 6.14). Hence $\alpha^2\|(\alpha iI-T)^{-1}(\alpha iI-T)x\|^2\leq\alpha^2\|x\|^2+\|Tx\|^2-2\mathrm{Re}\,\langle\alpha ix\,;Tx\rangle$. Thus $2\alpha\,\mathrm{Im}\,\langle Tx\,;x\rangle\leq\|Tx\|^2$ and $\mathrm{Im}\,\langle Tx\,;x\rangle=0$.

References & Index

▷ *p.511 – line 12 from bottom. Replace* Notes in *with* Notes on

▷ *p.513 – line 13. Replace* Rolt *with* Holt

▷ *p.515 – last line. Replace* 6nd *with* 6th

▷ *p.518 – line 23, right column. Replace* comeagre *with* comeager

▷ *p.522 – line 23, right column. Replace* meagre *with* meager

▷ *p.523 – line 7, left column. Replace* nonmeagre *with* nonmeager

▷ *p.524 – line 5 from bottom, right column. Replace* Nikod'yn *with* Nikodým

▷ *p.525 – line 20, left column. Delete* restriction of a function, 5

▷ *p.527 – lines 6 and 7 from bottom, left column. Insert page number* 412

(November 12, 2017)