Errata

Applied Analysis

(Corrected in online files but not in Second Printing)

- p. 115: Replace statement of Theorem 5.53 with: "A consistent approximation scheme is convergent if and only if it is stable."
- p.115: Replace last paragraph ("Conversely...") of the proof of Theorem 5.53 with: "Conversely, we prove that a convergent scheme is stable. For any $f \in Y$, let $u_\epsilon = A_\epsilon^{-1} f$. Then, since the scheme is convergent, we have $u_\epsilon \to u$ as $\epsilon \to 0$, where $u = A^{-1} f$, so that u_ϵ is bounded. Thus, there exists a constant M_f, independent of ϵ, such that $\|A_\epsilon^{-1} f\| \leq M_f$. The uniform boundedness theorem, which we do not prove here, then implies that there exists a constant M such that $\|A_\epsilon^{-1}\| \leq M$, so the scheme is stable."
- p. 213, Exercise 8.14: Replace last sentence by: "Use a polarization-type identity to prove that if $\mathcal{H}$ is a complex Hilbert space and

  $$\langle x, Ax \rangle = \langle x, Bx \rangle \qquad \text{for all } x \in \mathcal{H},$$

  then $A = B$. What can you say about A and B for real Hilbert spaces?"
- p. 239, Exercise 9.3: "Suppose that A is a bounded linear operator on a..."
- p. 362, "...$1/x$ belongs to..."
- p. 427 "Dautry" should be "Dautray".
- p. 428 "Mallet" should be "Mallat".