

person who wants to learn commutative harmonic analysis I would recommend several less specialized books instead. And for the student interested in spectral synthesis I would recommend Benedetto's book in conjunction with other books on the subject such as [8], [7], [2], [5] or [1]; incidentally [1] seems better organized than the present text. A lot can also be learned by going back to the original sources, for instance [9].

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The theory of approximate methods and their application to the numerical solution of singular integral equations, by V. V. Ivanov, Noordhoff International Publishing, Schuttersveld 9, P. O. Box 26, Leyden, The Netherlands, xvii + 330 pp., price Dfl. 70.--.

The main theme of the book is the numerical solution of singular integral equations with Cauchy kernels. The following set up is typical. Let γ denote the unit circle in the complex plane and consider the equation:

$$(1) \quad K\phi \equiv K^0\phi + \gamma k\phi = f,$$

where the dominant operator K^0 and the operator k are given by

$$K^0 \equiv a(t)\phi(t) + (\pi i)^{-1}b(t) \int_{\gamma} \phi(\tau)(\tau - t)^{-1}d\tau, \quad k\phi \equiv \int_{\gamma} k(\tau, t)\phi(\tau)d\tau,$$

with the first integral having its Cauchy principal value. In the classical theory (cf. [1]) the solution ϕ is sought in the Hölder class $H(\alpha, \gamma)$ ($0 < \alpha \leq 1$), and the coefficient functions together with $(k\phi)(t)$ are assumed to be Hölder continuous on γ . There is also an L_p theory in which these restrictions on the coefficient functions and the kernel $k(\tau, t)$ are relaxed somewhat.

There is a good case and a bad case. The good case is when $a^2 - b^2 \neq 0$ on γ , and bad is "not good".

In the good case, K is normally solvable, there is a simple formula for the