"*determine*" the Bergman kernel function $K(z, 0)$ associated with an octagonal region. Even the determination of an approximation to $K(z, 0)$ will, in this case, require very substantial computational effort. Similar remarks apply to Problems 12.7.7 and 12.7.9. (iii) Problem 4.6.5 (p.119), which is given at the end of Chapter 4, bears no obvious relation to the material covered in this chapter. In particular, the definition of the region G^*, which is referred (without any explanation) in this problem, is given much later in Section 12.4 (p. 331).

Finally, it is I think a pity that, in a book on computational conformal mapping, the well-established and widely used Schwarz–Christoffel conformal mapping package SCPACK of L. N. Trefethen is referenced in the book but, as far as I could see, not mentioned in the text and that the conformal mapping package CONFPACK of Hough [3] (which is based on the integral equation formulation of Symm) is neither mentioned nor referenced.

The book comes with an errata list, but there are still some errors that were not noticed. For example: (i) In Section 1.3, p. 27, it is stated that the function $1/r = 1/\sqrt{(x-x_0)^2+(y-y_0)^2}$ is harmonic in a two-dimensional region that does not contain the point (x_0, y_0). (ii) The statement of Problem 12.7.1, p.351, incorrectly refers to Eqs. (10.2.6) and (10.3.5), instead of (12.2.6) and (12.3.5).

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S. Ya. Khavinson, *Best Approximation by Linear Superpositions* (*Approximate Nomography*), Translations of Mathematical Monographs **159**, American Mathematical Society, Providence, RI, 1997, vii + 175 pp.

In most calculus texts superpositions of functions are studied along with two other operations, namely addition and multiplication, with respect to properties such as continuity, differentiability, integrability, and so forth. Addition and multiplication of functions are further studied intensively through almost all branches of mathematical analysis (Banach spaces of various kinds of functions, Banach algebras, and function algebras) while the composition operation attracts much less attention.

This book is devoted to the study of the so-called linear superpositions, which were motivated by Arnold and Kolmogorov's solution of Hilbert's 13th problem.

Let $X = X_1 \times X_2 \times \cdots X_k$ (compact factors) and let Q be a closed subset of X. Let $D = D(Q)$ denote the linear subspace of $C(Q)$ which consists of the functions of the form

$$f(x) = g_1(x_1) + g_2(x_2) + \cdots + g_k(x_k), \qquad x = (x_1, x_2, ..., x_k) \in Q,$$

with $g_i \in C(X_i)$, $i = 1, 2, ..., k$. Q is said to be *basically* embedded in X if $D = C(Q)$. The first chapter in the book is devoted to the study of this property. It includes Kolmogorov's Superposition Theorem, characterization of basic embeddings in terms of separation of measures, the study of the dual to the linear superposition operator, characterization of the dimension of Q by basic embeddings and related topics.

In Chapters 2 and 3 it is assumed that D differs from $C(Q)$. The following questions are then asked.

- When is D dense in $C(Q)$?
- When is D closed in $C(Q)$?
- Given an element f of $C(Q)$, what is the distance of f from D?
- Is this distance attained by some element of D?
- Is there an algorithm to find the nearest element?

Chapter 2 is devoted to the approximation of functions of two variables by sums of the form $g(x) + h(y)$. This problem was first studied in 1951 by Diliberto and Straus who developed the main tools for it (finitely supported annihilating measures on one hand and the leveling algorithm on the other). Several authors have extended their work. Some false results were also published, mainly when it was carelessly assumed that the case of three or more variables could be handled like the two-variable case. These topics are either studied or referred to in Chapter 2.

In Chapter 3 some more general forms of linear superpositions are developed.

The author avoids the presentation of proofs of some deeper and more difficult results such as the characterization due to Marshall and O'Farrell of extreme annihilating measures and my characterization of dimension by linear superpositions and basic embeddings. Some recent developments of the theory are omitted. These are mainly topologically oriented results such as Skopenkov's characterization of $R \times R$ basically embeddable continua, the case of one-dimensional factors X_i, in particular, dendrites, and hereditarily indecomposable X_i.

I regard this book by Khavinson as a solid introduction to the theory of linear superpositions.

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S. Bagdasarov, *Chebyshev Splines and Kolmogorov Inequalities*, Operator Theory: Advances and Applications **105**, Birkhäuser, Basel, 1998, xiii + 207 pp.

The study of extremal problems in approximation theory has a long and distinguished history. A. N. Kolmogorov had a significant influence on the study of such problems via two seminal papers from the 1930's. In the first of these papers Kolmogorov introduced the concept of n-widths. The second paper provided a solution for what we now call the Kolmogorov–Landau problem on all of $\mathbb{R}$. In considering both of these extremal problems in