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Multivariate Approximation Theory IV

Proceedings of the Conference at the Mathematical Research Institute at Oberwolfach, Black Forest, February 12–18, 1989

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PREFACE

Multivariate Approximation Theory forms a rapidly evolving field in Applied Mathematics. The reason for its particular current interest lies in its impact on Computer Aided Geometric Design (CAGD), Image Processing, Pattern Recognition, and Multidimensional Signal Processing. Multivariate Bernstein polynomials and box splines, for example, play an important rôle in CAGD. Conversely, the highly important filter bank design problem of signal processing, for instance, gives rise to a new family of multivariate approximating functions, the Gabor wavelets, with interesting technological and biological applications.

The conferences on Multivariate Approximation Theory held at the Mathematical Research Institute at Oberwolfach, Black Forest, in 1976, 1979, 1982, 1985 and 1989 reflect the progress made in this area and related fields. The present volume which is a continuation of the preceding volumes

Constructive Theory of Functions of Several Variables, Lecture Notes in Mathematics **571** (1977)

Multivariate Approximation Theory, ISNM **51** (1979)

Multivariate Approximation Theory II, ISNM **61** (1982)

Multivariate Approximation Theory III, ISNM **75** (1985)

is based on the conference held on February 12-18, 1989. It includes most of the lectures presented at the Oberwolfach meeting and reveals the wide spectrum of activities in the field of multivariate approximation.

The organizers are grateful to the Director of the Oberwolfach Mathematical Research Institute, Professor Dr. M. Barner, and his staff for providing the facilities, and to Dr. G. Baszenski, Professor Dr. F.J. Delvos, Dr. H. Nienhaus, and Dr. K. von Radziewski for their valuable cooperation during the preparation of the meeting.

July 1989

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