

Global Smoothness and Shape Preserving Interpolation by Classical Operators

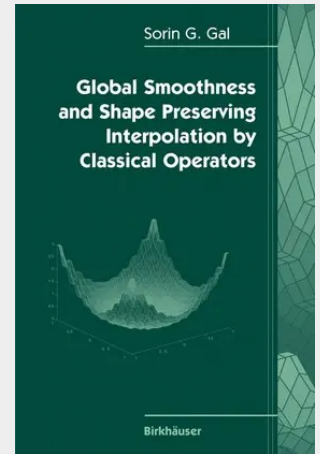
This monograph examines and develops the Global Smoothness Preservation Property (GSPP) and the Shape Preservation Property (SPP) in the field of interpolation of functions. The study is developed for the univariate and bivariate cases using well-known classical interpolation operators of Lagrange, Grünwald, Hermite-Fejér and Shepard type. One of the first books on the subject, it presents interesting new results along with an excellent survey of past research.

Key features include:

- potential applications to data fitting, fluid dynamics, curves and surfaces, engineering, and computer-aided geometric design
- presents recent work featuring many new interesting results as well as an excellent survey of past research
- many interesting open problems for future research presented throughout the text
- includes 20 very suggestive figures of nine types of Shepard surfaces concerning their shape preservation property
- generic techniques of the proofs allow for easy application to obtaining similar results for other interpolation operators

This unique, well-written text is best suited to graduate students and researchers in mathematical analysis, interpolation of functions, pure and applied mathematicians in numerical analysis, approximation theory, data fitting, computer-aided geometric design, fluid mechanics, and engineering researchers.

This monograph examines and develops the Global Smoothness Preservation Property (GSPP) and the Shape Preservation Property (SPP) in the field of interpolation of functions. The study is developed for the univariate and bivariate cases using well-known classical interpolation operators of Lagrange, Grünwald, Hermite-Fejér and Shepard type. One of the first books on the subject, it presents interesting new results along with an excellent survey of past research. Key features include: - potential applications to data fitting, fluid dynamics, curves and surfaces, engineering, and computer-aided geometric design - presents recent work featuring many new interesting results as well as an excellent survey of past research - many interesting open problems for future research presented throughout the text - includes 20 very suggestive figures of nine types of Shepard surfaces concerning their shape preservation property - generic techniques of the proofs allow for easy application to obtaining similar results for other interpolation operators This unique, well-written text is best suited to graduate students and researchers in mathematical analysis, interpolation of functions, pure and applied mathematicians in numerical analysis, approximation theory, data fitting, computer-aided geometric design, fluid mechanics, and engineering researchers.



53,49 €

49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780817643874

Medium: Buch

ISBN: 978-0-8176-4387-4

Verlag: Birkhäuser

Erscheinungstermin: 27.07.2005

Sprache(n): Englisch

Auflage: 2005

Produktform: Gebunden

Gewicht: 418 g

Seiten: 146

Format (B x H): 160 x 241 mm

