

THE ROCKY MOUNTAIN JOURNAL OF MATHEMATICS

Volume 14

Winter 1984

Number 1

CONTENTS

Surfaces	
By R.E. BARNHILL AND GREGORY M. NIELSON	1
A discrete C^1 interpolant for tetrahedral data	
By PETER ALFELD	5
A transfinite C^2 interpolant over triangles	
By PETER ALFELD AND ROBERT E. BARNHILL	17
On estimating partial derivatives for bivariate interpolation of scattered data	
By HIROSHI AKIMA	41
Adaptive triangular cubature	
By R.E. BARNHILL AND F.F. LITTLE	53
Three- and four-dimensional surfaces	
By R.E. BARNHILL AND F.F. LITTLE	77
Multistage trivariate surfaces	
By ROBERT E. BARNHILL AND SARAH E. STEAD	103
A storage-efficient method for construction of a Thiessen triangulation	
By A.K. CLINE AND R.L. RENKA	119
Three-stage interpolation to scattered data	
By THOMAS A. FOLEY	141
A representation for the constructive design of curved surfaces	
By THOMAS JENSEN	151
An application of multivariate B-splines to computer-aided geometric design	
By PETER KOICHEVAR	159
C^1 surface interpolation for scattered data on a sphere	
By CHARLES L. LAWSON	177
A method for construction of surfaces under tension	
By GREGORY M. NIELSON AND RICHARD FRANKE	203
A triangle-based C^1 interpolation method	
By R.L. RENKA AND A.K. CLINE	223
C^1 splines for interpolation of rapidly varying data	
By K. SALKAUSKAS	239

Bounds on the dimension of spaces of multivariate piecewise polynomials	
By LARRY L. SCHUMAKER	251
Estimation of gradients from scattered data	
By SARAH E. STEAD	265
Surface fitting with scattered noisy data on Euclidean D-space and on the sphere	
By GRACE WAHBA	281