Título: Introduction To The Mathematics Of Subdivision Surfaces

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Sinopsis

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Subdivision surfaces permit a designer to specify the approximate form of a surface defining an object and to refine and smooth the form to obtain a more useful or attractive version of the surface.

A considerable amount of mathematical theory is required to understand the characteristics of the resulting surfaces, and this book

? provides a careful and rigorous presentation of the mathematics underlying subdivision surfaces as used in computer graphics and animation, explaining the concepts necessary to easily read the subdivision literature;

? organizes subdivision methods into a unique and unambiguous hierarchy to facilitate insight and understanding;

? gives a broad discussion of the various methods and is not restricted to questions related to regularity of subdivision surfaces at so-called extraordinary points.

Introduction to the Mathematics of Subdivision Surfaces is excellent preparation for reading more advanced texts that delve more deeply into special questions of regularity. The authors provide exercises and projects at the end of each chapter.

Audience
This book is written for mathematically inclined Ph.D. students in computer science and researchers with advanced graduate-level expertise.

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About the Authors

Lars-Erik Andersson is Professor and former Chair of the Department of Mathematics at Linköpings universitet, Sweden. During 1989?1999 he was Adjoint Director of Research at the Swedish National Defense Research Establishment. He is the author of over 60 publications in the fields of inverse problems, theory of elasticity, and computer-aided geometric design.

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To request an examination copy or desk copy of this book, please use our online request form at www.siam.org/catalog/adopt.php.

Course material, including solutions to the exercises, is available on an associated web page.

Keywords

mathematical methods for subdivision surfaces, solid modelling, surface modelling and character animation