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   Titolo   Conformal Geometry : Computational Algorithms and Engineering
                         Applications / / by Miao Jin, Xianfeng Gu, Ying He, Yalin Wang

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   Descrizione fisica   1 online resource (318 pages)

   Disciplina   516.35

   Soggetti   Computer science - Mathematics
                         Applied mathematics
                         Engineering mathematics
                         Optical data processing
                         Computational Science and Engineering
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                         Computer Imaging, Vision, Pattern Recognition and Graphics

   Lingua di pubblicazione   Inglese

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   Nota di contenuto   Introduction -- Topological Algorithms -- Harmonic Map -- Harmonic
                         and Holomorphic Forms -- Discrete Ricci Flow -- Computer Graphics
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                         Wireless Sensor Networks.

   Sommario/riassunto   This book offers an essential overview of computational conformal
                         geometry applied to fundamental problems in specific engineering
                         fields. It introduces readers to conformal geometry theory and
                         discusses implementation issues from an engineering perspective. The
                         respective chapters explore fundamental problems in specific fields of
                         application, and detail how computational conformal geometric
                         methods can be used to solve them in a theoretically elegant and
                         computationally efficient way. The fields covered include computer
                         graphics, computer vision, geometric modeling, medical imaging, and
                         wireless sensor networks. Each chapter concludes with a summary of
                         the material covered and suggestions for further reading, and
                         numerous illustrations and computational algorithms complement the

text. The book draws on courses given by the authors at the University of Louisiana at Lafayette, the State University of New York at Stony Brook, and Tsinghua University, and will be of interest to senior undergraduates, graduates and researchers in computer science, applied mathematics, and engineering.