1. Record Nr. UNINA9910438029703321 Autore Zeng Wei Titolo Ricci flow for shape analysis and surface registration: theories, algorithms and applications / / Wei Zeng, Xianfeng David Gu New York:,: Springer,, 2013 Pubbl/distr/stampa **ISBN** 1-4614-8781-1 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (xi, 139 pages): illustrations (chiefly color) Collana SpringerBriefs in Mathematics, , 2191-8198 Disciplina 516.362 Soggetti Ricci flow **Evolution equations** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "ISSN: 2191-8198." Note generali "ISSN: 2191-8201 (electronic)." Nota di bibliografia Includes bibliographical references and index. Nota di contenuto 1. Introduction -- 2. Computational -- 3. Computational Geometry --4. Differential Geometry of Surface -- 5. Riemann Surface -- 6. Ricci Flow -- 7. Topological Algorithms -- 8. Harmonic Maps -- 9. Discrete Ricci Flow -- 10. Shape Analysis -- 11. Surface Diffeomorphism -- 12. Medical Imaging Applications -- 13. Computer Vision Applications --14. Computer Graphics Applications -- 15. Network Applications. . Ricci Flow for Shape Analysis and Surface Registration introduces the Sommario/riassunto beautiful and profound Ricci flow theory in a discrete setting. By using basic tools in linear algebra and multivariate calculus, readers can deduce all the major theorems in surface Ricci flow by themselves. The authors adapt the Ricci flow theory to practical computational algorithms, apply Ricci flow for shape analysis and surface registration, and demonstrate the power of Ricci flow in many applications in medical imaging, computer graphics, computer vision and wireless sensor network. Due to minimal pre-requisites, this book is accessible to engineers and medical experts, including educators, researchers. students and industry engineers who have an interest in solving real

problems related to shape analysis and surface registration. .