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| Nota di contenuto | Shape and Shape Theory; Contents; Preface; Chapter 1 Shapes and Shape Spaces; 1.1 Origins; 1.2 Some preliminary observations; 1.3 A matrix representation for the shape of a k-ad; 1.4 'Elementary' shape spaces k1 and k2; 1.5 The Fubini-Study metric on k2; 1.6 The proof of Casson's theorem; Chapter 2 The Global Structure of Shape Spaces; 2.1 The problem; 2.2 When is a space familiar; 2.3 CW complexes; 2.4 A cellular decomposition of the unit sphere; 2.5 The cellular decomposition of shape spaces; 2.6 Inclusions and isometries; 2.7 Simple connectivity and higher homotopy groups<br>2.8 The mapping cone decomposition2.9 Homotopy type and Casson's theorem; Chapter 3 Computing the Homology of Cell Complexes; 3.1 The orientation of certain spaces; 3.2 The orientation of spherical cells; 3.3 The boundary of an oriented cell; 3.4 The chain complex, homology and cohomology groups; 3.5 Reduced homology; 3.6 The homology exact sequence for shape spaces; 3.7 Applications of the exact sequence; 3.8 Topological invariants that distinguish between shape spaces; Chapter 4 A Chain Complex for Shape Spaces; 4.1 The chain complex; 4.2 The space of unoriented shapes<br>4.3 The boundary map in the chain complex4.4 Decomposing the chain |

Sommario/riassunto

Shape and Shape Theory D. G. Kendall Churchill College, University of Cambridge, UK D. Barden Girton College, University of Cambridge, UK T. K. Carne King's College, University of Cambridge, UK H. Le University of Nottingham, UK The statistical theory of shape is a relatively new topic and is generating a great deal of interest and comment by statisticians, engineers and computer scientists. Mathematically, 'shape' is the geometrical information required to describe an object when location, scale and rotational effects are removed. The theory was pioneered by Professor David Kendall to solve p