1. Record Nr. UNINA9910300253103321

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Titolo	Moduli Spaces of Riemannian Metrics / / by Wilderich Tuschmann, David J. Wraith
Pubbl/distr/stampa	Basel : , : Springer Basel : , : Imprint : Birkhäuser, , 2015
ISBN	3-0348-0948-4
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (X, 123 p. 3 illus.)
Collana	Oberwolfach Seminars, , 1661-237X ; ; 46
Disciplina	516.36
Soggetti	Geometry, Differential Algebraic topology Manifolds (Mathematics) Complex manifolds Differential Geometry Algebraic Topology Manifolds and Cell Complexes (incl. Diff.Topology)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Part I: Positive scalar curvature -- The (moduli) space of all Riemannian metrics -- Clifford algebras and spin -- Dirac operators and index theorems -- Early results on the space of positive scalar curvature metrics -- Kreck-Stolz invariants -- Applications of Kreck-Stolz invariants -- The eta invariant and applications -- The case of dimensions 2 and 3 -- The observer moduli space and applications -- Other topological structures -- Negative scalar and Ricci curvature -- Part II: Sectional curvature -- Moduli spaces of compact manifolds with positive or non-negative sectional curvature -- Moduli spaces of compact manifolds with negative and non-positive sectional curvature -- Moduli spaces of non-compact manifolds with non-negative sectional curvature -- Positive pinching and the Klingenberg-Sakai conjecture.
Sommario/riassunto	This book studies certain spaces of Riemannian metrics on both compact and non-compact manifolds. These spaces are defined by various sign-based curvature conditions, with special attention paid to positive scalar curvature and non-negative sectional curvature, though

we also consider positive Ricci and non-positive sectional curvature. If we form the quotient of such a space of metrics under the action of the diffeomorphism group (or possibly a subgroup) we obtain a moduli space. Understanding the topology of both the original space of metrics and the corresponding moduli space form the central theme of this book. For example, what can be said about the connectedness or the various homotopy groups of such spaces? We explore the major results in the area, but provide sufficient background so that a non-expert with a grounding in Riemannian geometry can access this growing area of research.