1. Record Nr. UNINA9910805583703321

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Titolo	Conformal Vector Fields, Ricci Solitons and Related Topics / / by Ramesh Sharma, Sharief Deshmukh
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	9789819992584 9819992583
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (xi, 158 pages) : illustrations
Collana	Infosys Science Foundation Series in Mathematical Sciences, , 2364-4044
Disciplina	514.74
Soggetti	Global analysis (Mathematics) Manifolds (Mathematics) Geometry, Differential General relativity (Physics) Global Analysis and Analysis on Manifolds Differential Geometry General Relativity
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Manifolds and Submanifolds Reviewed -- 2 Lie Group And Lie Derivative -- 3 Conformal Transformations -- 4 Conformal Vector Fields -- 5 Integral Formulas And Conformal Vector Fields.
Sommario/riassunto	This book provides an up-to-date introduction to the theory of manifolds, submanifolds, semi-Riemannian geometry and warped product geometry, and their applications in geometry and physics. It then explores the properties of conformal vector fields and conformal transformations, including their fixed points, essentiality and the Lichnerowicz conjecture. Later chapters focus on the study of conformal vector fields on special Riemannian and Lorentzian manifolds, with a special emphasis on general relativistic spacetimes and the evolution of conformal vector fields in terms of initial data. The book also delves into the realm of Ricci flow and Ricci solitons, starting with motivations and basic results and moving on to more advanced topics within the framework of Riemannian geometry. The main

emphasis of the book is on the interplay between conformal vector fields and Ricci solitons, and their applications in contact geometry. The book highlights the fact that Nil-solitons and Sol-solitons naturally arise in the study of Ricci solitons in contact geometry. Finally, the book gives a comprehensive overview of generalized quasi-Einstein structures and Yamabe solitons and their roles in contact geometry. It would serve as a valuable resource for graduate students and researchers in mathematics and physics as well as those interested in the intersection of geometry and physics.