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A spinorial approach to Riemannian and conformal geometry.

Monographs in Mathematics. Zürich: European Mathematical Society (EMS) (ISBN 978-3-03719-136-1/hbk; 978-3-03719-636-6/ebook). ix, 452 p. (2015).

This book complements previous books on the topic. The authors present in deep detail the study of spin and spin^c manifolds. They do it from the viewpoint of Riemannian geometry although it is the first book in the topic that present a simultaneous treatment of the spin, spin^c , conformal spin, and conformal spin^c geometries. Moreover, they present the interplay between spinors and special geometric structures on Riemannian manifolds.

Besides, the book is clearly written and self-contained. The book covers the basic material on algebra, geometry, analysis and topology needed to understand the results presented. Each topic covered in the book has good state of art. Several recent results of active research about lower bound of Dirac spectrum are presented collectively in a tabular form. The authors also illustrate the applications of some other recent developments in the spectral study of the Dirac operator on closed spin manifolds. Moreover, explicit computations of the Dirac spectrum of model spaces are presented.

This book is highly recommendable to beginners researching in spin Geometry.

Teresa Arias-Marco (Badajoz)