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Titolo	Differential Geometry : Foundations of Cauchy-Riemann and Pseudohermitian Geometry (Book I-C) / / by Elisabetta Barletta, Sorin Dragomir, Mohammad Hasan Shahid, Falleh R. Al-Solamy
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Nota di contenuto	Cauchy–Riemann manifolds -- Pseudohermitian geometry -- Tangential Cauchy–Riemann complex -- Submanifolds of Hermitian and Sasakian manifolds.
Sommario/riassunto	This book, Differential Geometry: Foundations of Cauchy–Riemann and Pseudohermitian Geometry (Book I-C), is the third in a series of four books presenting a choice of topics, among fundamental and more advanced, in Cauchy–Riemann (CR) and pseudohermitian geometry, such as Lewy operators, CR structures and the tangential CR equations, the Levi form, Tanaka–Webster connections, sub-Laplacians, pseudohermitian sectional curvature, and Kohn–Rossi cohomology of the tangential CR complex. Recent results on submanifolds of Hermitian and Sasakian manifolds are presented, from the viewpoint of the geometry of the second fundamental form of an isometric immersion. The book has two souls, those of Complex Analysis versus Riemannian geometry, and attempts to fill in the gap among the two.

The other three books of the series are: Differential Geometry: Manifolds, Bundles, Characteristic Classes (Book I-A) Differential Geometry: Riemannian Geometry and Isometric Immersions (Book I-B) Differential Geometry: Advanced Topics in Cauchy–Riemann and Pseudohermitian Geometry (Book I-D) The four books belong to an ampler book project “Differential Geometry, Partial Differential Equations, and Mathematical Physics”, by the same authors, and aim to demonstrate how certain portions of differential geometry (DG) and the theory of partial differential equations (PDEs) apply to general relativity and (quantum) gravity theory. These books supply some of the ad hoc DG and PDEs machinery yet do not constitute a comprehensive treatise on DG or PDEs, but rather authors’ choice based on their scientific (mathematical and physical) interests. These are centered around the theory of immersions—*isometric*, *holomorphic*, and *CR*—and pseudohermitian geometry, as devised by Sidney Martin Webster for the study of nondegenerate CR structures, themselves a DG manifestation of the tangential CR equations.
