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Nota di contenuto	Multiplication on the tangent bundle -- First examples -- Fast track through the results -- Definition and first properties of F-manifolds -- Finite-dimensional algebras -- Vector bundles with multiplication -- Definition of F-manifolds -- Decomposition of F-manifolds and examples -- F-manifolds and potentiality -- Massive F-manifolds and Lagrange maps -- Lagrange property of massive F-manifolds -- Existence of Euler fields -- Lyashko-Looijenga maps and graphs of Lagrange maps -- Miniversal Lagrange maps and F-manifolds -- Lyashko-Looijenga map of an F-manifold -- Discriminants and modality of F-manifolds -- Discriminant of an F-manifold -- 2-dimensional F-manifolds -- Logarithmic vector fields -- Isomorphisms and modality of germs of F-manifolds -- Analytic spectrum embedded differently -- Singularities and Coxeter groups -- Hypersurface

singularities -- Boundary singularities -- Coxeter groups and F-manifolds -- Coxeter groups and Frobenius manifolds -- 3-dimensional and other F-manifolds -- Frobenius manifolds, Gauss-Manin connections, and moduli spaces for hypersurface singularities -- Construction of Frobenius manifolds for singularities -- Moduli spaces and other applications -- Connections over the punctured plane -- Flat vector bundles on the punctured plane -- Lattices -- Saturated lattices -- Riemann-Hilbert-Birkhoff problem -- Spectral numbers globally -- Meromorphic connections -- Logarithmic vector fields and differential forms -- Logarithmic pole along a smooth divisor -- Logarithmic pole along any divisor.

Sommario/riassunto

The relations between Frobenius manifolds and singularity theory are treated here in a rigorous yet accessible manner. For those working in singularity theory or other areas of complex geometry, this book will open the door to the study of Frobenius manifolds. This class of manifolds are now known to be relevant for the study of singularity theory, quantum cohomology, mirror symmetry, symplectic geometry and integrable systems. The first part of the book explains the theory of manifolds with a multiplication on the tangent bundle. The second presents a simplified explanation of the role of Frobenius manifolds in singularity theory along with all the necessary tools and several applications. Readers will find here a careful and sound study of the fundamental structures and results in this exciting branch of maths. This book will serve as an excellent resource for researchers and graduate students who wish to work in this area.