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Autore	Cartan Elie <1869-1951.>
Titolo	Riemannian geometry in an orthogonal frame [[electronic resource] ] : from lectures delivered by Elie Cartan at the Sorbonne in 1926-1927 / / translated from Russian by Vladislav V. Goldberg ; foreword by S. S. Chern
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Altri autori (Persone)	FinikovS. P <1883-1964.> (Sergei Pavlovich)
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Nota di contenuto	Contents ; Foreword ; Translator's Introduction ; Preface to the Russian Edition ; PRELIMINARIES ; Chapter 1 Method of Moving Frames ; 1. Components of an infinitesimal displacement ; 2. Relations among 1-forms of an orthonormal frame ; 3. Finding the components of a given family of trihedrons ; 4. Moving frames ; 5. Line element of the space ; 6. Contravariant and covariant components ; 7. Infinitesimal affine transformations of a frame ; Chapter 2 The Theory of Pfaffian Forms ; 8. Differentiation in a given direction ; 9. Bilinear covariant of Frobenius ; 10. Skew-symmetric bilinear forms ; 11. Exterior quadratic forms ; 12. Converse theorems. Cartan's Lemma ; 13. Exterior differential ; Chapter 3 Integration of Systems of Pfaffian Differential Equations

- ; 14. Integral manifold of a system
- 15. Necessary condition of complete integrability
- 16. Necessary and sufficient condition of complete integrability of a system of Pfaffian equations
- ; 17. Path independence of the solution
- 18. Reduction of the problem of integration of a completely integrable system to the integration of a Cauchy system
- 19. First integrals of a completely integrable system
- ; 20. Relation between exterior differentials and the Stokes formula
- ; 21. Orientation ; Chapter 4 Generalization
- 22. Exterior differential forms of arbitrary order

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Sommario/riassunto

Foreword by *S S Chern* In 1926-27, Cartan gave a series of lectures in which he introduced exterior forms at the very beginning and used extensively orthogonal frames throughout to investigate the geometry of Riemannian manifolds. In this course he solved a series of problems in Euclidean and non-Euclidean spaces, as well as a series of variational problems on geodesics. In 1960, Sergei P Finikov translated from French into Russian his notes of these Cartan's lectures and published them as a book entitled Riemannian Geometry in an Orthogonal Frame. This book has many innovations

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