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Riemannian Geometry of Contact and Symplectic Manifolds

Series: Progress in Mathematics, Vol. 203

- ▶ **New material in most chapters**
- ▶ **Major new topics are covered such as a complex geodesic flow and the accompanying geometry of the projectivized holomorphic tangent bundle**
- ▶ **Improvements and general corrections based off of the first edition are made throughout**
- ▶ **Intended for a broad audience of mathematicians, researchers, and students in Riemannian geometry**

This second edition, divided into fourteen chapters, presents a comprehensive treatment of contact and symplectic manifolds from the Riemannian point of view. The monograph examines the basic ideas in detail and provides many illustrative examples for the reader.

Riemannian Geometry of Contact and Symplectic Manifolds, Second Edition provides new material in most chapters, but a particular emphasis remains on contact manifolds. New principal topics include a complex geodesic flow and the accompanying geometry of the projectivized holomorphic tangent bundle and a complex version of the special directions discussed in Chapter 11 for the real case. Both of these topics make use of Étienne Ghys's attractive notion of a holomorphic Anosov flow.

Researchers, mathematicians, and graduate students in contact and symplectic manifold theory and in Riemannian geometry will benefit from this work. A basic course in Riemannian geometry is a prerequisite.

Reviews from the First Edition:

"The book . . . can be used either as an introduction to the subject or as a reference for students and researchers . . . [it] gives a clear and complete account of the main ideas . . . and studies a vast amount of related subjects such as integral sub-manifolds, symplectic structure of tangent bundles, curvature of contact metric manifolds and curvature functionals on spaces of associated metrics." —**Mathematical Reviews**

"... this is a pleasant and useful book and all geometers will profit [from] reading it. They can use it for advanced courses, for thesis topics as well as for references. Beginners will find in it an attractive [table of] contents and useful ideas for pursuing their studies." —**Memoriile Sectiilor Stiintifice**