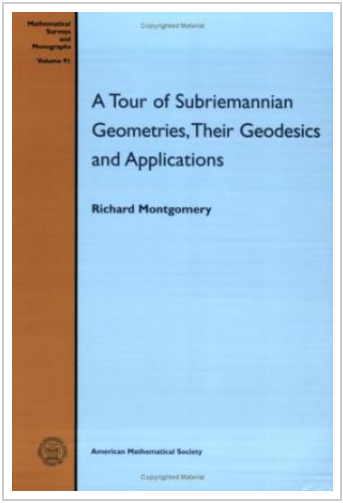

A Tour of Subriemannian Geometries, Their Geodesics and Applications

By Richard Montgomery

American Mathematical Society. Paperback. Book Condition: new. BRAND NEW, A Tour of Subriemannian Geometries, Their Geodesics and Applications, Richard Montgomery, Subriemannian geometries, also known as Carnot-Caratheodory geometries, can be viewed as limits of Riemannian geometries. They also arise in physical phenomenon involving ""geometric phases"" or holonomy. Very roughly speaking, a subriemannian geometry consists of a manifold endowed with a distribution (meaning a k-plane field, or subbundle of the tangent bundle), called horizontal together with an inner product on that distribution. If $k=n$, the dimension of the manifold, we get the usual Riemannian geometry. Given a subriemannian geometry, we can define the distance between two points just as in the Riemannian case, except we are only allowed to travel along the horizontal lines between two points. The book is devoted to the study of subriemannian geometries, their geodesics, and their applications. It starts with the simplest nontrivial example of a subriemannian geometry: the two-dimensional isoperimetric problem reformulated as a problem of finding subriemannian geodesics.Among topics discussed in other chapters of the first part of the book the author mentions an elementary exposition of Gromov's surprising idea to use subriemannian geometry for proving a theorem in discrete group theory and Cartan's method...

Reviews

A really great publication with lucid and perfect reasons. I have read through and i am confident that i am going to gonna read yet again yet again down the road. It is extremely difficult to leave it before concluding, once you begin to read the book.

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