Contact Manifolds In Riemannian Geometry

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Contact Manifolds In Riemannian Geometry

First Steps in Differential Geometry: Riemannian, Contact ...
to questions of geometry Beginning with the verification of age-old geometrical measurements like the circumference and area of a circle, the new techniques of
Pseudohermitian geometry on contact Riemannian manifolds
study the geometry of (possibly non integrable) almost CR structures on contact Rie-mannian manifolds We characterize CR-pluriharmonic functions in terms of dieren-tial operators naturally attached to the given contact Riemannian structure We show that the almost CR structure of a contact Riemannian manifold (M,) admitting global
TIGHTNESS IN CONTACT METRIC 3–MANIFOLDS
global properties of contact structures on 3–manifolds In particular we prove an analog of the sphere theorem from Riemannian geometry in the setting of contact geometry Specif-ically, if a given three dimensional contact manifold (M,ξ)admits a complete compatible Riemannian metric of positive 4/9-pinched curvature then the underlying
VOLUME OF SMALL BALLS AND SUB-RIEMANNIAN ...
VOLUME OF SMALL BALLS IN 3-DIMENSIONAL CONTACT MANIFOLDS 3 geodesic joining pwith xin time 1 (this map is well defined for ae x∈M on a contact sub-Riemannian manifold) one has that Φ p,t(B(p,r)) (B(p,tr), with strict inclusionIt is possible actually to show that, on every 3-dimensional contact sub-Riemannian manifold,
EXISTENCE OF ISOPERIMETRIC REGIONS IN CONTACT SUB ...
regions in contact sub-Riemannian manifolds whose quotient by the group Isom!(M, g) of contact isometries, the diffeomorphisms that preserve the

contact structure and the sub-Riemannian metric, is compact This is the analog of Morgan's Riemannian result In the proof of Theorem61we follow closely Morgan's scheme: we pick a minimizing

Geometric connections and geometric Dirac operators on ...

Geometric connections and geometric Dirac operators on contact manifolds Suppose (M,g) is an oriented, n-dimensional Riemannian manifold We will denote a generic local, oriented, orthonormal synchronous frame of TMby (e i) Its dual coframe is denoted by (ei) We will

SUB-RIEMANNIAN CURVATURE IN CONTACT GEOMETRY

SUB-RIEMANNIAN CURVATURE IN CONTACT GEOMETRY ANDREI AGRACHEV1, DAVIDE BARILARI2, AND LUCA RIZZI3 Abstract We compare different notions of curvature on contact sub-Riemannian manifolds In particular we introduce canonical curvatures as the coefficients of the sub-Riemannian Jacobi equation

SEMI-SLANT RIEMANNIAN MAPS FROM ALMOST CONTACT ...

SEMI-SLANT RIEMANNIAN MAPS FROM ALMOST CONTACT MANIFOLDS 129 is a smooth map between them Then the di erential F of F can be viewed a section of bundle Hom(TM;F 1TN) !M, where F ...

1. Introduction - People

article will proceed to discuss the connections between contact geometry and symplectic geometry, Riemannian geometry, complex geometry, analysis and dynamics The article ends discussing two of the most studied connections with physics: Hamiltonian dynamics and geometric optics References for other important topics in contact geometry

An Introduction to Differentiable Manifolds and Riemannian ...

An Introduction to Differentiable Manifolds and Riemannian Geometry BRAYTON GRAY Homotopy Theory : An Introduction to Algebraic Topology ROBERT A ADAMS Sobolev Spaces 1,s PreParafion D V WIDDER The Heat Equation IRVING E SECAL Mathematical Cosmology and Extragalactic Astronomy J DIEUDOXN~

NOTES FOR MATH 599: CONTACT GEOMETRY

Pfaff's theorem essentially says that contact geometry has no local invariants The Darboux the-orem in symplectic geometry also states that there are no local invariants in symplectic geometry (Its statement also strongly resembles the Pfaff theorem) This contrasts with Riemannian geome-try, where the curvature is a local invariant HW 6

LecturesontheGeometryofManifolds

uses in geometry in the hands of the Great Masters This is the path we want to follow of manifolds are the curves and the surfaces and these were quite well understood B at a first contact, it may look a bit unfriendly in concrete computations We chose a local approach build on the reader's ex-

-RICCI SOLITONS IN 3-DIMENSIONAL NORMAL ALMOST ...

initiated the study of Ricci solitons in contact Riemannian geometry After that, Tripathi [20] Nagaraja et al [14] and others like M Turan et al [21] extensively studied Ricci soliton in almost contact metric manifolds In 2015, [17] S K Perktas and S Keles was studied the Ricci soliton in normal almost paracontact metric manifolds

Manifolds, Geometry, and Robotics

Manifolds, Geometry, and Robotics Frank C Park Seoul National University Ideas and methods from differential geometry and Lie groups have played a crucial role in establishing the scientific foundations of robotics, and more than Riemannian manifolds, manipulability

Riemannian Curvature of a Sliced Contact Metric Manifold

the sliced almost contact metric manifolds Hence we think that all these studies will accelerate the studies on the contact manifolds and their submanifolds Keywords: contact geometry, sectional curvature, riemannian curvature, Sliced almost contact metric manifolds, Sliced contact metric manifolds

Periodic Orbits In Contact and Riemannian Geometry

Periodic Orbits In Contact and Riemannian Geometry September, 3rd - September, 7th, 2012 - Palais des Congrès du Touquet, France Ivan Babenko - Université de Montpellier Two lectures on "Systolic geometry: basic constructions and some open problems" After main definitions, we will consider the systolic problem in frames of smooth manifolds,

ON SEMI-INVARIANT SUBMANIFOLDS OF ALMOST COMPLEX ...

Two special contact Riemannian manifolds are K-contact Riemannian manifolds As a subject the Riemannian Geometry of complex contact manifolds have just made it debut and it tends to be studied

Certain Classes of Almost Contact Riemannian Manifolds

Certain classes of almost contact Riemannian Manifolds, viz, almost Kenmotsu, nearly Kenmotsu, Quasi-Kenmotsu and special contact metric Manifolds are defined and obtained some properties of these manifolds Also, it has been shown that the structure vector field ξ of the almost contact metric structure (Φ, ξ, η, G) is not

Characteristic Jacobi operator on contact Riemannian 3 ...

In contact Riemannian geometry, the Jacobi operator along the Reeb vector eld ˇ plays an important role The class of contact Riemannian manifolds with = 0 is particularly large For instance, Bang [1] showed that the normal bundle of a Legendre submanifold in a Sasakian manifold admits a contact Riemannian structure