DIFFERENTIAL GEOMETRY SEMINAR

MONDAY, MAY 22
COMMUNICATIONS 226
3:45 P.M.

The Gromov-Hausdorff Metric

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In this talk I will discuss a tool developed by M. Gromov for the study of global Riemannian geometry. Put simply, his idea is to introduce a metric space structure on the collection of Riemannian manifolds. This allows one to ask questions about the topology of this collection and its subsets and to consider limits of sequences of manifolds. The distance function we will consider is the Gromov-Hausdorff distance which is a direct generalization of the classical Hausdorff distance between subsets of a metric space. As a nice illustration of the ideas involved, I will present the proof of Gromov's Precompactness Theorem which states that any collection of compact n-dimensional Riemannian manifolds with a lower bound on Ricci curvature and an upper bound on diameters is precompact as a subset of the collection of all compact metric spaces. A number of applications will then be presented.

This talk has the unique feature that it will be accessible even to those who have not yet taken the Geometric Structures sequence.

For more information about this seminar, view the Differential Geometry Seminar World-Wide Web page at

`http://www.math.washington.edu/~lee/Seminars/dg.html`

To request disability accommodations, contact the Office of the ADA Coordinator, at least ten days in advance of the event: 543-6450 (voice); 543-6452 (TDD); 685-3885 (FAX); `access@u.washington.edu` (E-mail).