GEOMETRIC ANALYSIS SEMINAR

"Total Curvature and the isoperimetric inequality in negatively curved manifolds"

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Abstract: We prove that the total positive Gauss-Kronecker curvature of any closed hypersurface embedded in a complete simply connected manifold of nonpositive curvature Mn, n ≥ 2, is bounded below by the volume of the unit sphere in Euclidean space Rn. This yields the optimal isoperimetric inequality for bounded regions of finite perimeter in M, and thus settles the Cartan-Hadamard conjecture. Our starting point is a comparison formula for total curvature of level sets in Riemannian manifolds. This is joint work with Mohammad Ghomi.

Wednesday, November 6, 2019
MIT, Room 2-131
Time: 4:00 PM

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