Πανεπιστήμιο Ιωαννίνων / University of Ioannina

Τμήμα Μαθηματικών / Department of Mathematics

Εβδομαδιαια Σεμιναρια Τμηματος Μαθηματικων
Weekly Seminar of the Department of Mathematics

The asymptotic Plateau's problem for minimal submanifolds and CMC hypersurfaces in a Hadamard manifold

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Let M^n be a Cartan-Hadamard manifold (namely a connected, simply connected, complete Riemannian manifold with nonpositive sectional curvature) of dimension $n \geq 3$. The asymptotic Plateau's problem for a k–dimensional minimal submanifold in M, $2 \leq k \leq n-1$, consists in finding, for a given $(k-1)$–dimensional, closed, topological submanifold Γ of $\partial_\infty M$, a complete minimal submanifold S^k of M such that $\partial_\infty S = \Gamma$.

In codimension 1, given $H \in \mathbb{R}$ we may consider the asymptotic Plateau's problem for the constant mean curvature (CMC) H hypersurface in M, namely, find a complete CMC H hypersurface S of M such that $\partial_\infty S = \Gamma$.

In this talk I will explain the basic notions used to investigate these problems, making a short survey of what has already been obtained, and comment on the recent work I have been doing with my colleagues Jean-Baptiste Casteras, Ilkka Holopainen, Miriam Telichevesky and Friedrich Tomi.

Αίθουσα Σεμιναρίων Τμήματος Μαθηματικών
Lecture Room of the Department of Mathematics
10 Φεβρουαρίου / February 2015, 13:00