



Γενικό Σεμινάριο Τμήματος Μαθηματικών

Generic Regularity of Minimizing Hypersurfaces in Dimensions Up to 10

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Περίληψη

A classical problem in geometric analysis and the calculus of variations is to find least-area submanifolds spanning a prescribed boundary. Deep results in geometric measure theory developed between the 1950s and the 1970s guarantee that for every smooth compact $(n - 2)$ -dimensional submanifold L in \mathbb{R}^n there exists a smooth compact hypersurface-with-boundary that spans L with least area provided $n \leq 7$. When $n \geq 8$, some boundaries L do not bound smooth least-area hypersurfaces. In this talk, I will discuss recent joint work with O. Chodosh and F. Schulze where we prove that the non-existence of smooth minimizers is Baire non-generic if $n \leq 10$. This improves upon the analogous 1980's result for $n = 8$ by R. Hardt and L. Simon.

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