



复旦大学数学科学学院 数学综合报告会

报告题目: Morse Index and Willmore Stability of Minimal Surfaces in Spheres

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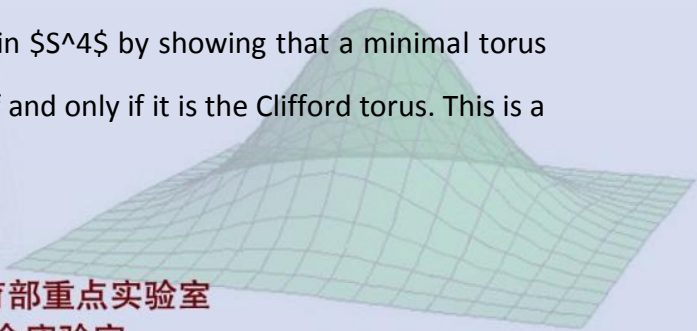
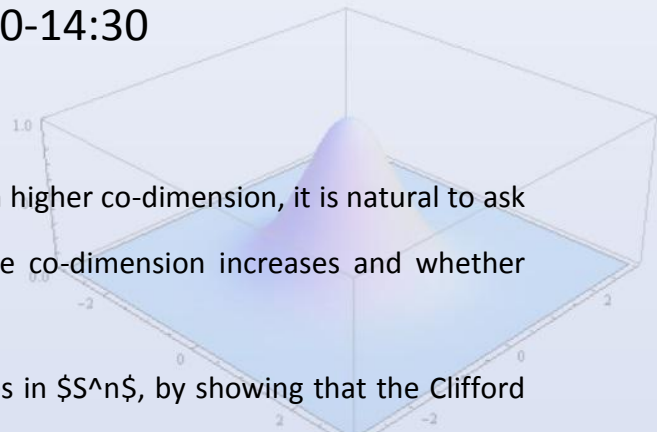
报告时间: 2017-12-21 星期四 13:30-14:30

报告地点: 光华东主楼 1501

摘要: When considering the Willmore conjecture in higher co-dimension, it is natural to ask whether the Clifford torus is Willmore stable when the co-dimension increases and whether there are other Willmore stable tori or not.

We answer these problems partially for minimal surfaces in S^n , by showing that the Clifford torus in S^3 and the equilateral Itoh--Montiel--Ros torus in S^5 are the only Willmore stable minimal tori in arbitrary higher co-dimension. Moreover, the Clifford torus is the only minimal torus (locally) minimizing the Willmore energy in arbitrary higher codimension. And the equilateral Itoh--Montiel--Ros torus is a constrained-Willmore minimizer, but not a (local) Willmore minimizer.

We also generalize Urbano's Theorem to minimal tori in S^4 by showing that a minimal torus in S^4 has index at least 6 and the equality holds if and only if it is the Clifford torus. This is a joint work with Prof. Rob Kusner (UMass Amherst).



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