Department of Mathematics
The Institute of Mathematical Sciences
The Chinese University of Hong Kong

數學系
數學科學研究所
香港中文大學

Phone: (852) 3943 7988 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk (Math. Dept.)
Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Joint Geometric Analysis Seminar

Stability on two types of partitioning problems

Prof. Chao Xia
Xiamen University

Abstract

In this talk, two geometric variational problems, so-called partitioning problems for convex domains will be discussed. Type-I is on area minimizing hypersurfaces with volume constraint and Type-II is on area minimizing ones with wetting area constraint. The stationary points for Type-I are free boundary CMC hypersurfaces while the ones for Type-II are minimal hypersurfaces with constant contact angle. We study the stability problem, namely, the second variation for area functional is nonnegative under two types of admissible deformations. We show the uniqueness result for stable type-I or type-II stationary hypersurfaces in a Euclidean ball. This talk is based on joint works with Guofang Wang and Jinyu Guo.

Date: 28 March 2019 (Thursday)
Time: 11:00am – 12:00noon
Venue: Room 502a, Academic Building No.1 ,
            The Chinese University of Hong Kong, Shatin

All are Welcome