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Joint Geometric Analysis Seminar

(Part of MIST program)

Minimal hypersurfaces in a generic 8-dimensional closed manifold

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Abstract

In the recent decade, the Almgren-Pitts min-max theory has advanced the existence theory of minimal surfaces in a closed Riemannian manifold (M^{n+1}, g). When $2 \leq n+1 \leq 7$, many properties of these minimal hypersurfaces (geodesics), such as areas, Morse indices, multiplicities, and spatial distributions, have been well studied. However, in higher dimensions, singularities may occur in the constructed minimal hypersurfaces. This phenomenon invalidates many techniques helpful in the low dimensions to investigate these geometric objects. In this talk, I will discuss how to overcome the difficulty in a generic 8-dimensional closed manifold, utilizing various deformation arguments. En route to obtaining generic results, we prove the generic regularity of minimal hypersurfaces in dimension 8. This talk is partially based on joint works with Zhihan Wang.

Date: 9 March 2022 (Wednesday)
Time: 11:00am – 12:00pm (Hong Kong time)
ZOOM link: https://cuhk.zoom.us/j/91805734715

All are Welcome