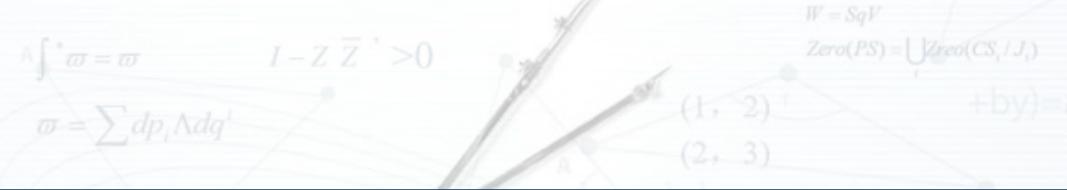


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## Academy of Mathematics and Systems Science, CAS Colloquia & Seminars

**Speaker:** 范辉军, 北京大学数学学院**Inviter:** 中科院数学学院学术报告会组委**Title:** On the Geometry of Landau-Ginzburg Model**Language:** Chinese**Time & Venue:** 2023.05.12 10:40-13:00 南楼204教室 腾讯会议: 374-6743-0937**Abstract:**  
An LG model  $(M, f)$  is given by a noncompact complex manifold  $M$  and the holomorphic function  $f$  defined on it, which is an important model in string theory. Because of the mirror symmetry conjecture, the research on the geometric structure and quantization theory of LG model has attracted more and more attention. Given a Calabi-Yau (CY) manifold, we can define Gromov-Witten theory (A theory) on it, and also study the variation of Hodge structure on its mirror manifold (B theory). Accordingly, LG model includes A theory - FJRW theory and Hodge structure variational theory.

This report starts with some examples, gives the geometric and topological information contained by a LG model, and derives the relevant Witten equation (nonlinear) and Schrodinger equation (linear). The study of the solution space of these two sets of equations will lead to different quantization theories. Secondly, we give our recent correspondence theorem of Hodge structures between LG model and CY manifold. Finally, we will discuss some relevant issues.

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