

WORKSHOP ON VECTOR BUNDLES ON CURVES, TOPICS FOR DISCUSSION.

”Understand the relation between moduli of bundles on a curve and on its covers, in relation with Langlands’ base change conjectures. As a Galois-twisted variant, understand the geometry of moduli of real bundles on curves with a real structure.”

”Explore the implications of the S-duality of four-dimensional gauge theories for the geometry of moduli of bundles on Riemann surfaces, as proposed by Kapustin and Witten.”

”Extend known geometric structures on moduli of bundles on curves to moduli of objects in the derived category.”

David Ben Zvi

”Put VBAC in context. What are the most interesting problems— solved and unsolved— about vector bundles on curves that have implications and applications to ”the rest of” mathematics.”

Aaron Bertram

”To better understand the arithmetic properties of the moduli spaces of stable vector bundles. In particular, it seems potentially interesting to investigate (1) the existence of rational points over various fields, and (2) the properties of the universal obstruction over the space of stable bundles (in particular, its period and index).”

Max Lieblich

”Study the connections between the moduli of coherent systems, the moduli of stable maps to grassmannians and quot schemes.”

Peter Newstead

”To gain an understanding of the fact that the basic homological algebra of derived categories allows one to study the variation of cohomology of coherent sheaves over parameter spaces. This can be applied in particular to study the behavior of the cohomology of objects parametrized by the moduli spaces we are especially interested in at this workshop.”

Mihnea Popa

”Understand rational maps of the moduli space of curves to projective space given by theta divisors”

Montserrat Teixidor i Bigas