

Algebraic Geometry Seminar

Hodge ideals and singularities

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Abstract: In this lecture I will introduce some invariants of singularities that come out of D-module theory. Given a nonzero element of the polynomial ring, the localization at this element is a module over the ring of differential operators, and Saito's theory of Mixed Hodge Modules endows it with a canonical filtration. I will explain how to relate the properties of this filtration to the singularities of the given polynomial and how to use this for geometric applications. This is based on joint work with Mihnea Popa.

Wednesday, November 14 at 4:00 PM in 427 SEO