

On the Noether-Lefschetz theory in projective toric orbifolds

Tuesday, 7 October 2025 11:00 (1 hour)

In 2012, Bruzzo and Grassi proved a Noether-Lefschetz theorem for toric varieties, which claims that for a $(2k+1)$ -dimensional projective toric orbifold with suitable conditions on a very general quasi-smooth hypersurface X , each (k, k) -cohomology class on X comes from the ambient toric variety. The Noether-Lefschetz locus is the locus of quasi-smooth hypersurfaces with the same degree such that there exists a (k, k) -cohomology class that does not come from the ambient toric variety. In this talk, I will present the main results about the Noether-Lefschetz loci in toric varieties based on my joint work with Prof. Ugo Bruzzo in recent years.

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