

Algebraic Geometry Seminar

Birational Contractions of $M_{g,n}$ and Their Dependence on the Characteristic

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Abstract: In this talk, we discuss the existence and nonexistence of certain birational contractions of $\overline{\mathrm{M}}_{g,n}$. Somewhat surprisingly, this depends on the characteristic of the base field: many such contractions exist only in positive characteristic. We present a precise form of this phenomenon and discuss two examples that highlight the difference between characteristic zero and positive characteristic. The first is a simple and explicit contraction that exists only in positive characteristic, and the second is a modular interpretation of the morphisms associated with ψ classes on $\overline{\mathrm{M}}_{g,n}$. We also offer some speculation on why such characteristic-dependent phenomena arise.

Monday, April 13 at 3:00 PM in 636 SEO