A^1 CURVES ON QUASI-PROJECTIVE VARIETIES.

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Abstract

Rational curve plays a central role in the study of birational geometry for projective varieties. The analogue of rational curve on quasi-projective varieties is A^1-curve. In this talk, I will report the recent joint work with Yi Zhu on the study of A^1-curves on quasi-projective varieties. As an analogue of rationally connectedness for projective varieties, we introduce the theory of A^1-connectedness for quasi-projective varieties. To study the geometry of a quasi-projective variety U, we compactify U by a log smooth pair (X, D). Using the theory of stable log maps to (X, D) developed by Abramovich-Chen and Gross-Siebert, we were able to produce A^1 curves on U from degeneration. This technique provides us many interesting examples of A^1-connected varieties. Some applications to arithmetic geometry and rationally connectedness will be discussed as well.

Tuesday, 7 April 2015
4:00 pm
Smith Hall 204
Note special day!

Tea and refreshments will be served at 3:45pm.