A PROBLEM LIST FOR $K$-CORRESPONDENCES

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Abstract. We introduce the notion of $K$-correspondence, and show that many Calabi-Yau varieties carry a lot of self-$K$-isocorrespondences, which furthermore satisfy the property of multiplying the canonical volume form by a constant of modulus different from 1. This leads to the introduction of a modified Kobayashi-Eisenman pseudovolume form, for which we are able to prove many instances of the Kobayashi conjecture.

1. Title of talk: $K$-correspondences and intrinsic pseudovolume forms

2. A problem list for $K$-correspondences

(1) Disprove one of Lang’s conjectures [:]: e.g., show that certain (projective) Calabi-Yau varieties are not covered by families of abelian varieties.

(2) Study rational equivalence of 0-cycles on Calabi-Yau varieties. The goal is to get the existence of $K$-correspondences in a more general setting than in [:].

(3) Study the problem of the existence of self-rational maps of positive degree on Calabi-Yau varieties. I.e., prove that they do not exist generically, (while $K$-correspondences of positive degree do exist).

(4) Compare the Kobayashi-Eisenman pseudovolume form with the one I construct in [:].

References


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