

Boundedness and Moduli Problems in Birational Geometry and Foliation Theory



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A proof of the b-semiampleness conjecture

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A family of Calabi–Yau varieties (or, more generally, log Calabi–Yau pairs) $f: X \rightarrow Y$ naturally induces a moduli divisor M , measuring the variation of the family f . Based on earlier works of the Japanese school, Prokhorov and Shokurov conjectured that M is semiample. In this talk, we discuss a proof of this conjecture and, time permitting, some immediate applications in birational geometry. In this talk, we will assume the inputs from minimality and Hodge theory, discussed in the first talk by Mauri. In particular, we will focus on the birational methods involved: study of log canonical centers, P_1 -linking, and pluricanonical representations.

This is the second of a series of two talks on the paper “Baily–Borel compactifications of period images and the b-semiampleness conjecture”, a joint work with Benjamin Bakker, Mirko Mauri, and Jacob Tsimerman.

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