

INSTITUTUL DE MATEMATICA "SIMION STOILOW" AL ACADEMIEI ROMANE

Seminarul Algebraic Geometry

Newton-Okounkov bodies for Mori dream spaces

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Abstract: Let X be Mori Dream Space embedded in a toric variety with algebraic torus T . We construct a tropical compactification of the restriction of X to T that determines a model of X dominating all its small \mathbb{Q} -factorial modifications. Exploiting the combinatorial properties of such compactification, we recover a Minkowski basis for the Newton-Okounkov bodies of Cartier divisors on X and hence a set of generators of the movable cone of X . The existence of such basis allows us to prove the polyhedrality of the global Newton-Okounkov body and the existence of toric degenerations. This is joint work with Stefano Urbinati.