

NORDAN 2016: Several Complex Variables

Duality between the pseudoeffective and
the movable cone on a projective manifold.

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The structure of projective algebraic manifolds is to a large extent governed by the geometry of its cones of divisors or curves. In the case of divisors, two cones are of primary importance: the cone of ample divisors and the cone of effective divisors (and the closure of these cones as well). These cones have natural transcendental analogues, namely the cone of Kähler classes (called the Kähler cone) and the cone of pseudoeffective $(1, 1)$ -classes (called the pseudoeffective cone).

I will discuss my recent proof of a conjecture of Boucksom-Demailly-Paun-Peternell which says that on a projective manifold the pseudoeffective cone is dual to the cone of movable classes. A celebrated result of Demailly-Paun showed that the Kähler cone is determined by analytic cycles and the Hodge structure of the manifold. A consequence of the duality theorem is that on a projective manifold the pseudoeffective cone is similarly determined by the analytic cycles and the Hodge structure of the manifold together with all its modifications.