

Green's Conjecture on syzygies of canonical curves

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Abstract

Mark Green's Conjecture on syzygies of canonical curves, has been one of the most studied questions in the theory of Riemann surfaces in the last few decades. Formulated in 1984 and still open in its full generality, it is a deceptively simple statement which predicts that the intrinsic geometry of the curve (in the form of linear series) can be recovered in a precise way from the extrinsic geometry of the canonical embedding (in the form of syzygies). I will discuss how one can use Voisin's solution to Green's Conjecture for GENERAL curves together with the geometry of the moduli space of curves, in order to prove Green's Conjecture for ALL curves lying on K3 surfaces. This is joint work with M. Aprodu.

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