

A Reider-type theorem for higher syzygies on abelian surfaces

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Résumé : In this talk I would like to present a joint work with Alex Küronya about syzygies of ample line bundles on abelian surfaces. We study criteria for property N_p , introduced in the 80's by Green and Lazarsfeld, in terms of non-existence on the surface of elliptic curves of small degree. The main focus of the talk is to present the main ideas of how one can tackle such a problem, in which euclidean and convex geometry of Newton– Okounkov polygons play an essential role. This is due to the fact that first one can use these convex sets to describe the local positivity properties of the line bundle and second to find effective divisors with prescribed singularities.