EXTREMAL CASES OF THE SECANT CONJECTURE FOR CURVES OF ARBITRARY GONALITY

MICHAEL KEMENY

ABSTRACT. In a recent work with Gavril Farkas, we proved the Green-Lazarsfeld secant conjecture on syzygies of curves, under the assumption that the curve is general. In particular, we obtained several effective statements, explaining precisely when line bundles of "extremal" degree d satisfy a property N_p , under the assumption that the curve has maximal gonality. I will explain how to obtain similar effective results when the curve has arbitrary gonality and satisfies one other Brill–Noether type condition. This confirms the conjecture of Green-Lazarsfeld in these cases.