CLIFFORD INDEX AND NORMAL GENERATION

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Abstract. The gonality and the Clifford index of a smooth algebraic curve X are important birational invariants which contain a lot of algebraic and geometric information. For example, Green and Lazasfeld ([**?**]) show that a very ample line bundle $\mathcal{L}$ on X of gunus g with the inequality

$$\deg(\mathcal{L}) \geq 2g + 1 - 2h^1(\mathcal{L}) - \mathrm{Cliff}(X)$$

is always normally generated. In this talk, we discuss about extremal line bundles, i.e. very ample line bundles $\mathcal{L}$ with $\mathrm{Cliff}(\mathcal{L}) = \mathrm{Cliff}(C)$ which fail to be normally generated. Also, we talk about the relation of X and C with respect to the gonality and the Clifford index when X is contained in a ruled surface S with a base curve C.

It is joint work with Prof. Kim (Chungwoon University) and Prof. Kim (Hankuk University of Foreign Studies).

References

[1] Green, M. and Lazarsfeld, R., *On the projective normality of complete linear series on an algebraic curve*, Invent. Math. **8**3 (1986), 73–90.

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