

Harvard-M.I.T. Algebraic Geometry Seminar

THE CYCLE $C - C^-$, POSITIVITY OF NORMAL FUNCTIONS, AND MORIWAKI'S INEQUALITY

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Abstract:

Moriwaki's line bundle is a line bundle on $\overline{\mathcal{M}}_g$, the Deligne-Mumford moduli space of stable genus g curves, which has non-negative degree on almost all complete curves in $\overline{\mathcal{M}}_g$. In this talk, I will explain how Moriwaki's result follows naturally when one studies the metrized line bundle over $\overline{\mathcal{M}}_g$ one constructs to compute the (archimedean) height of the algebraic cycle $C - C^-$ in the jacobian of the curve C . I will also explain the analogue of this inequality for $\overline{\mathcal{M}}_{g,1}$, the moduli space of pointed stable curves, which arises when one studies the height of the degree 0 cycle $(2g - 2)x - K_C$ in the curve C . The coefficients that appear in both inequalities are, in some sense, "structure constants" of mapping class groups.

Tuesday, October 15

3:00 p.m.

Harvard Rm 507

<http://www-math.mit.edu/~jstarr/02sem/>.