

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

d -ELLIPTIC LOCI AND QUASI-MODULAR FORMS

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Abstract: Let $N_{g,d}$ be the locus of curves of genus g admitting a degree d cover of an elliptic curve. For fixed g , it is conjectured that the classes of $N_{g,d}$ on M_g are the Fourier coefficients of a cycle-valued quasi-modular form in d . A key difficulty is that these classes are often non-tautological, so lie outside the reach of many known techniques. Via the Torelli map, the conjecture can be moved to one on certain Noether-Lefschetz loci on A_g , where there is access to different tools. I will explain some evidence for these conjectures, gathered from results of many people, some of which are joint with François Greer and Naomi Sweeting.

See <http://math.bu.edu/research/geom/seminar.html> or contact Siu-Cheong Lau (scllouis@bu.edu) or Brian Williams (bwill22@bu.edu) for more information.