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**Jacqueline Anderson, Jennifer S. Balakrishnan\*** (jen@math.harvard.edu), **Kristin Lauter, Jennifer Park** and **Bianca Viray**. *Comparing the arithmetic intersection formulas of Bruinier-Yang and Lauter-Viray.*

Bruinier and Yang gave a conjectural formula for the arithmetic intersection number  $CM(K).G1$  on the Siegel moduli space of abelian surfaces. This intersection number allows one to compute the denominators of Igusa class polynomials and has applications to the construction of genus 2 curves for use in cryptography.

Yang proved this conjecture under certain assumptions on the ramification in the quartic CM field  $K$ . More recently, Lauter and Viray gave a seemingly different formula for this intersection for a larger class of primitive quartic CM fields. We discuss each formula and sketch the correspondence between the two formulas in the range where they both apply. (Received September 18, 2012)