Elliptic subcovers of a curve of genus 2.
II. The refined Humbert invariant

Abstract:
Let $C/K$ be a curve of genus 2 over an arbitrary field $K$. The first part of this two-part paper established a bijection between the set of equivalence classes of the elliptic subcovers of $C/K$ and the set of certain primitive representations of an intrinsic quadratic form $q_C$ called the refined Humbert invariant. This second part explains how to compute the refined Humbert invariant explicitly from a presentation of the Jacobian variety $J_C$ of $C$. 