

# 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  $C$ .