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Prym varieties in genus 4

Many arithmetic properties of hyperbolic curves become apparent from embeddings into abelian varieties, in particular their Jacobians. For special curves, particularly those that arise as unramified double covers of another curve (of genus g), the Jacobian variety itself is decomposable. This leads to Prym varieties. These are principally polarized abelian varieties of dimension g-1. Having an explicit description of these varieties is an essential ingredient in many computational methods. We discuss an explicit construction for g equal to 4. This is joint work with Emre Can Sertoz.