

# Horizontal variation of Mordell-Weil groups

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Let  $F$  be a totally real field. For a CM quadratic extension  $K/F$ , let  $H_K$  be the corresponding Hilbert class field. Let  $\Theta$  be an infinite collection of CM quadratic extensions of  $F$ . For a  $GL_2$ -type abelian variety  $A/F$ , we discuss results on the variation of Mordell-Weil groups  $A(H_K)$  as  $K \in \Theta$  varies (joint with Ye Tian). The approach crucially relies on the Andre–Oort conjecture for self-products of a Shimura curve over  $F$ .