

## Local-global principles for endomorphism rings of abelian varieties

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Let  $A$  be an abelian variety defined over a number field  $K$  and let  $D = \operatorname{End}_{\overline{K}}(A)$  be its geometric endomorphism algebra. The motivating question for this talk is how much information on  $D$  can be recovered from the knowledge of the endomorphism rings of the reductions  $A_{\mathfrak{p}}$  at good places  $\mathfrak{p}$ . I will describe a local-global principle satisfied by the center of  $D$  (which allows one to characterise the center in terms of local data) and further discuss how -- in some low-dimensional situations -- considering a finite, effectively bounded number of reductions is enough to prove that  $A$  possesses nontrivial endomorphisms.