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Local flat duality of abelian varieties

ABSTRACT: Let K be a field complete for a discrete valuation and with algebraically closed residue field of positive characteristic p. We will consider a non degenerate pairing between the first (flat) cohomology group of an abelian variety A over K and the fundamental group of the dual abelian variety A'. This pairing extends to the p-primary components a pairing introduced by Shafarevich in 1962. We relate this pairing with Grothendieck's pairing between the component groups of A and A'.