

Oberseminar Arithmetische Geometrie: Néron models over bases of higher dimension

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Néron models for 1-parameter families of abelian varieties were defined and constructed by Néron in the 1960's, and provide a 'best possible' model for the degenerating family. For a degenerating family of abelian varieties over a base scheme of dimension greater than 1, it is much less clear what the 'best possible' model for the family would be. If one naively extends Néron's original definition to this setting then these objects fail to exist, even if we allow blowups or alterations of the base space of the family – more precisely, we give a combinatorial characterisation of exactly when such Néron models of jacobians exist.