

Title: Morita conjecture on projective integral models of Shimura varieties of Hodge type

Abstract:

Let A be an abelian variety over a number field. Let G be the Mumford–Tate group of some extension $A_{\mathbb{C}}$ of A to the field \mathbb{C} of complex numbers. An old conjecture of Morita predicts that, if the \mathbb{Q} -rank of the adjoint group $G/Z(G)$ of G is 0, then A has potentially good reduction everywhere. This is equivalent to the statement that the natural integral models of the Shimura variety $\mathrm{Sh}(G, X)$ attached to $A_{\mathbb{C}}$, are all projective. We report on the proof of the Morita conjecture in the case when each simple factor of $G/Z(G)$ has over \mathbb{R} at least one simple, compact factor.