

abstract

JOINT IAS/PU NUMBER THEORY SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Let p be a prime. Let F be an algebraic closure of the finite field F_p with p elements. An integral canonical model N of a Shimura variety $\mathrm{Sh}(G, X)$ of Hodge type is a regular, closed subscheme of a suitable pull back of the Mumford moduli tower M over $Z_{(p)}$. We recall that M parametrizes isomorphism classes of principally polarized abelian schemes over $Z_{(p)}$ -schemes which have a fixed relative dimension and which have level- m symplectic similitude structures for all m prime to p . Deep conjectures of Tate and Langlands-Rapoport pertain to points of N with values in an algebraic closure of the field with p elements. We report on the proof of the Langlands-Rapoport conjecture for those $\mathrm{Sh}(G, X)$ with the property that each simple factor of the adjoint Shimura pair $(G^{\mathrm{ad}}, X^{\mathrm{ad}})$ has compact factors and it is not of D_n^H type. As a key ingredient we get an ad\`elic version of the Tate conjecture for many supersingular abelian varieties which are associated to F -valued points of certain N .