

Goren-Oort Stratification of quaternionic Shimura varieties and applications

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Abstract : In this talk, I will first define the integral model of a quaternionic Shimura variety following the strategy of Deligne and Carayol. Then I will explain how to define partial Hasse invariants and Goren-Oort stratification on the special fiber of such varieties. We will prove that each closed GO-stratum is an iterated \mathbb{P}^1 bundle over the special fiber of another quaternionic Shimura varieties. These geometric results can be used to compute the cohomology of each GO-stratum, and have interesting applications to the classicality of overconvergent p -adic Hilbert modular forms, and the Tate conjecture for Hilbert modular varieties over finite fields.