DYLAN ATTWELL-DUVAL, McGill University
Counting cusps for orthogonal Shimura varieties

A rational vector space (V, q) of signature $(2, n)$ gives rise to an orthogonal Shimura variety. Due to accidental isomorphisms of the orthogonal group in low dimensions, many special cases of such varieties are already well known through different reductive groups. In this talk we shall discuss the structure of the Baily-Borel compactifications of these spaces, particularly the case when V splits two hyperbolic planes over $\mathbb{Q}$, which holds for all V if $n \geq 5$. We find that arithmetic subgroups arising from maximal lattices yield explicit formulas. These results are a portion of my Ph.D. work.