DELIGNE-MOSTOW LATTICES AND CONE METRICS ON THE SPHERE

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Abstract: Finding lattices in PU(n,1) has been one of the major challenges of the last decades. One way of constructing a lattice is to give a fundamental domain for its action on the complex hyperbolic space.

One approach, successful for some lattices, consists of seeing the complex hyperbolic space as the configuration space of cone metrics on the sphere and of studying the action of some maps exchanging the cone points with same cone angle.

In this talk we will see how this construction can be used to build fundamental polyhedra for all Deligne-Mostow lattices in PU(2,1).