

New non-arithmetic lattices in $SU(2,1)$

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In 1980 Mostow produced a small number of non-arithmetic lattices in $SU(2,1)$ by a direct geometric construction using complex reflections. The only other known examples were groups considered by Picard in his work on hypergeometric functions. We consider a mild generalization of Mostow's construction, which produces a new (finite) family of non-arithmetic lattices in $SU(2,1)$, none of which is commensurable to any Picard or Mostow lattice. This is joint work with M. Deraux and J. Parker.