

Global invariants of quaternionic hyperbolic spaces

It has been known since the end of the 60's with the work of Kazdan and Margulis, and the subsequent work of Wang, that any locally symmetric manifold of the non-compact type contains an embedded ball of radius r_X depending only on its universal cover X . Bounding r_X by below gives geometrical informations about all manifolds covered by X (volume, thin-thick decomposition...).

In this talk, I will explain how one can obtain an explicit bound on r_X , when X is the quaternionic hyperbolic space of dimension n .

A natural question is the behaviour of this radius with the dimension n of the hyperbolic space. I will then discuss this matter, connecting it with the behaviour of another invariant of hyperbolic spaces : their Margulis constant.

Finally, if time allows, I will talk about another fundamental invariant of these spaces: their volume (how does a bound on r_X connect to a bound on the volume of quotients of hyperbolic spaces, asymptotical behaviour of the minimal volume of these quotients...).

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