

## Maximal representations on infinite dimensional symmetric spaces

An important application of bounded cohomology is the theory of maximal representations: a class of homomorphisms of fundamental groups of Kaehler manifolds (most notably fundamental groups of surfaces and manifolds covered by complex hyperbolic spaces) in Hermitian Lie groups (as  $Sp(2n, \mathbb{R})$  or  $SU(p, q)$ ). These representations have striking geometric properties and, in some cases, are even superrigid. In my talk I will discuss a joint work with Bruno Duchesne and Jean Lecureux in which we study generalizations to actions on infinite dimensional Hermitian symmetric spaces.