Infinite dimensional symmetric spaces
Wend Werner (Universität Münster)

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Abstract:

Infinite dimensional geometry, and in particular Lie theory, is faced with a number of problems, which make it difficult, among other things, to come up with examples so easily.

In some instances, a good substitute for the rather rare Riemannian, or for that matter, Hilbertian, structure on infinite dimensional manifolds seems to be a non-commutative approach using Hilbert-$C^*$-modules.

In the case of infinite dimensional holomorphy it turns out that for a number of cases noncommutative hyperbolic structure can provide geometric invariants which are well-known in one dimension and which otherwise have been hard to come by in the past (where Finsler structure has been tried, to lesser avail).