## Irreducible amenable subalgebras and Connes' bicentralizer problem

Cyril Houdayer

Université Paris-Sud (Orsay)

We investigate the structure of irreducible inclusions of type III factors. We relate the problem of the existence of irreducible amenable subalgebras to Connes' bicentralizer problem. We also prove a relative version of Haagerup's bicentralizer theorem and use it to solve Kadison's problem for discrete irreducible inclusions of type III factors. Based on joint work with H. Ando, U. Haagerup and A. Marrakchi.