



Seminário de Sistemas Dinâmicos da UFF

CONNECTEDNESS OF SMOOTH \mathbb{Z}^2 ACTIONS ON THE SEGMENT

Hélène Eynard-Bontemps
(Institut de Mathématiques de Jussieu)

Data: Quinta-feira 29/10/2015

Hora: 16h30.

Local: Sala 207, Bloco G ou sala 409, Bloco H, Campus Gragoatá.

Resumo

One motivation for studying surface group actions on one-dimensional manifolds comes from the general study of codimension one foliations on 3-manifolds, where they appear as holonomies of “horizontal” foliations on interval or circle bundles over surfaces. In this respect, the torus, and thus its fundamental group \mathbb{Z}^2 , play a particular role. Indeed, in the C^∞ case, it turns out that classifying foliations up to deformation (on any closed 3-manifold) boils down to describing the path-connected components of the space of \mathbb{Z}^2 actions on the segment, or in other words the classes of pairs of commuting diffeomorphisms of the segment up to continuous deformation. In this talk, we will show that the above space is actually connected (joint work with C. Bonatti). To give an idea of the subtlety of the problem, let us add that the path-connectedness, on the other hand, remains an open question. It will be part of the aim of the talk to introduce the necessary (classical and less classical) material to explain this nuance, as well as the importance of the regularity assumption.