04 **Tejas Kalelkar**

- **Tejas Kalelkar** (Indian Institute of Science Education and Research, Pune)
  - Taut foliations in compact 3-dimensional manifolds with constrained boundary slopes
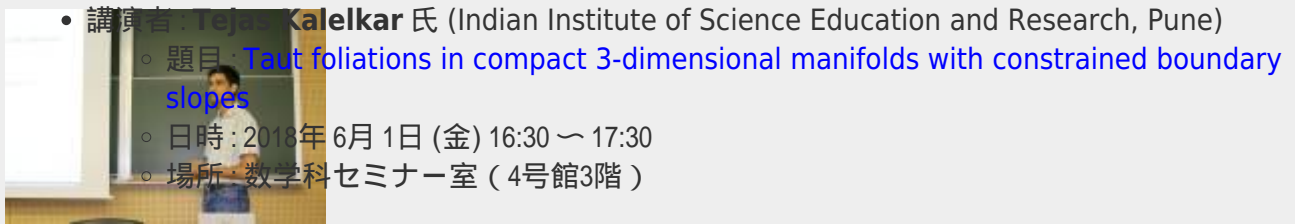 - : 2018 6 1 ( ) 16:30 17:30
  - 4 3

seminar, 2018

abstract

Every 3-dimensional manifold has a foliation by 2-dimensional manifolds (called leaves). A foliation is called taut if there exists a simple closed curve in the manifold that intersects each leaf of the foliation transversally. A surface bundle over a circle is the simplest example of a 3-manifold with a taut foliation by compact leaves. Every 3-manifold can be obtained from such a surface bundle by Dehn filling the boundary components, ie, by sticking a solid torus to the torus boundaries. We have proved that the fiber structure of a surface bundle can be perturbed to taut foliations realizing all rational boundary slopes in a neighbourhood of the the boundary slopes the fiber. This allowed us to prove that 3-manifolds obtained by Dehn-filling a surface-bundle along slopes sufficiently close to the slopes of the fiber produce closed 3-manifolds that contain taut foliations close to the standard foliation of the surface-bundle. In other words, closed 3-manifolds that are near closed surface bundles (in terms of the Dehn-filling slopes) also have taut foliations. This is a generalization of a result of Rachel Roberts to compact manifolds with disconnected boundary, and is also joint work with her.

.lg-outer.lg-pull-caption-up.lg-thumb-open .lg-sub-html {bottom:80px;}

10 images

From:
https://wiki.ma.noda.tus.ac.jp/ - ( )

Permanent link:
https://wiki.ma.noda.tus.ac.jp/seminar/2018/004

Last update: **2021/02/11 11:08**