

## 談話会のお知らせ

講演者：Tejas Kalelkar 氏 【Indian Institute of Science Education and Research, Pune】

題 目：Taut foliations in compact 3-dimensional manifolds with constrained boundary slopes

日 時：平成 30 年 6 月 1 日(金) 16:30～17:30

場 所：数学科セミナー室 4 号館 3 階

### 【アブストラクト】

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.

東京理科大学総合研究院  
現代代数学と異分野連携研究部門講演会と共催

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## 代数学とトポロジー講演会 2018 June のお知らせ

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(理工学部数学科談話会と共催)

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