

明治大学先端数理科学インスティテュート

MIMS現象数理カフェセミナー

日時: 2018年11月19日(月) (12:40 - 13:20)

場所: 中野キャンパス8階 談話室

Instability and pattern formation of the interstellar medium

Ayuki Sekisaka (MIMS, Meiji Univ.)

Abstract: In our universe, there are several types of galaxies. By a shape of their own, they are also called a spiral galaxy, lenticular galaxy, elliptical galaxy and so on. In the study of galaxy formation and evolution, many researchers are interested in the processes that formed a heterogeneous universe from a homogeneous beginning. We also have an interest in the mechanism of pattern formation of the very massive interstellar medium, and unfortunately, the classical physics can not explain the spiral galaxies. One of the model of the self-gravitational interstellar gas clouds is given by the compressible Navier-Stokes-Poisson system (CNSP), and such self-gravitational collapse is called as the Jeans instability.

In this talk, we will show the dynamics of the 3-dimensional CNSP around the Jeans instability point. Second, we want to discuss about the next step of this problem with an audience. This is joint work with Hiroko Yamamoto (University of Tokyo) and Shota Enomoto (Keio University) and supported by MIMS Joint Research Project for Mathematical Sciences.



問い合わせ: Yu Uchiumi
Email: uchiumi.yu@gmail.com