

# 数学与系统科学研究院

## 计算数学所学术报告

报告人: 彭秋和 教授

( 南京大学 )

报告题目:

银河系中心的磁场异常问题

邀请人: 刘润球 研究员

报告时间: 2014 年 11 月 8 日 (周六)

下午 15:00

报告地点: 晨兴数学中心 410

### Abstract:

First, we demonstrate that the abnormally strong radial magnetic

field near the GC discovered in 2013 (Eatough et al., 2013) can't be produced by the  $\alpha$ -turbulence dynamo mechanism which is the known most effective dynamo mechanism up to now. However, the discovery that very strong radial magnetic field in the neighbor of the GC has been found is just consistent with the prediction in our paper published on the ApJL in 2001(Peng and Chou 2001). Thus, we believe that this is probably just the astronomical observational evidence for magnetic monopole existence which is predicted by the grand unified theory of particle physics.

Second, we demonstrate that the radiations observed from the region nearby the GC are hardly emitted by the gas of accretion disk, due to the accretion disk being prevented from approaching to the GC by the strong radial magnetic field in the neighbor of the GC. However, the dilemma of the standard accretion disk model of black holes in AGNs may be naturally solved in our model of supermassive object (SMO) with magnetic monopoles (Peng and Chou 2001). The Conclusions are:

- 1) It could be an astronomical observational evidence of the existence of magnetic monopoles which it predicated in particle physics.
- 2) The black hole model and accretion disk model of quasars and AGNs are not correct, and then our AGN model containing magnetic monopoles could be a reasonable one.
- 3) The radiations emitted from the region near the GC may be naturally explained by our model.

# 欢迎大家参加！