Contribution ID: **32** Type: **Oral Contributions**

Foreground effect on the J-factor estimation of the dwarf spheroidal galaxies

Monday, September 12, 2016 4:30 PM (20 minutes)

One of the most promising way to detect dark matter is to look for its annihilation or decay products among cosmic-rays. Especially, it is found that quite strong constraints can be imposed by the gamma-ray measurements of dwarf spheroidal galaxies. However, recent studies reveal that these constraints are largely affected by the uncertainty of the dark matter halo density. In this talk, we will discuss robustness of the dark matter halo estimation especially focusing on the effect of the contamination of foreground stars. We show this effect by constructing realistic mock data, which gives a prospect of the future kinematical survey of the dwarf member stars. In our study, we also test the dark matter profile estimation and introduce a new likelihood to eliminate the effect of the foreground contamination.

Summary

Primary author: ICHIKAWA, Koji (Kavli IPMU)

Co-author: Prof. MATSUMOTO, Shigeki (Kavli IPMU)

Presenter: ICHIKAWA, Koji (Kavli IPMU)

Session Classification: Dark matter (indirect detection)

Track Classification: Dark matter (indirect detection)