

北海道大学「トポロジー理工学教育研究センター」

北海道大学 理学研究院物理部門「物理コロキウム」共催セミナー

物理コロキウム エンレイソウの会 (第139回)

場 所: 理学部2号館2階11号室 (2-2-11)

日 時: 平成22年 6月 11日(金曜日)

15:00~16:20

講演者: 梅津 敬一 氏

(台湾中央研究院 (ASIAA))

題 目: 『**Galaxy Cluster Gravitational Lensing
as a Cosmological Probe**』

要 旨: Clusters of galaxies, by virtue of their position at the high end of the cosmic mass power spectrum, play a direct and fundamental role in testing cosmological models and in constraining the properties of dark matter (DM), providing unique and independent tests of any viable cosmology and structure formation scenario. The ability of massive clusters, dominated by invisible DM (~80% in the mass), to significantly distort the images of background objects via gravitational lensing, and hence reveal their gravitational potentials and total mass profiles, can provide direct and unique constraints on the nature of the underlying matter distribution. In this talk, I will present our recent comprehensive weak and strong lensing work on massive clusters based on deep Subaru/Suprime-Cam and Hubble Space Telescope/Advanced Camera for Surveys observations, aiming for constraining the equilibrium DM mass profile shapes and mass concentrations as a function of the cluster mass. I will also introduce and discuss our recent results of the first weak lensing measurement of the cosmological distance-redshift relation behind three massive clusters of galaxies (Abell 370, ZwCL0024+1654, RXJ1347-11). Finally, I will discuss the prospects for the upcoming Cluster Lensing And Supernova survey with Hubble (CLASH), a 524-orbit HST multi-cycle treasury (MCT) program.

お世話人: 早崎 公威 (理学研究院 物理学部門・内線3516)

エンレイソウの会連絡先

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