

**[구ID-05] Development of SPICA FPC**

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The SPICA (SPace Infrared Telescope for Cosmology & Astrophysics) is a next generation infrared space telescope being prepared by JAXA, ESA and other international collaborators. We propose to develop FPC (Focal Plane Camera) consisting of two near-infrared cameras: FPC-G (I band) for focal plane guidance and FPC-S (0.7 – 5 um) for a back-up of FPC-G and a NIR instrument for scientific observations. In this talk, we introduce the requirement and the design concept of the FPC as well as the development strategy of the project.

**[구ID-06] Study of Extensive air shower simulation**

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Cosmic rays with energy exceeding  $10^{18}$ eV are referred to as Ultra high energy cosmic rays (UHECRs). UHECR experiments have utilized air shower simulations to estimate the properties of cosmic rays. Telescope array (TA) experiment has used COSMOS and CORSIKA mainly; the Monte Carlo codes of CORSIKA and COSMOS simulate the evolution of extensive air showers in the atmosphere initiated by photons, hadrons or nuclei UHECRs. We compare the simulations from CORSIKA and COSMOS. Comparison has shown noticeable differences at the ground distributions, longitudinal distributions, Calorimetric energy, and Xmax value. The implications of our results are discussed.