THE CHINESE UNIVERSITY OF HONG KONG

Department of Physics

SEMINAR

Galaxy Clusters and Cosmology from the First eROSITA X-Ray Sky Survey

by

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Time: 4:30 - 5:15 pm
Place: Rm G25, Science Centre North Block, CUHK

ALL INTERESTED ARE WELCOME
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Abstract

The eROSITA telescope aboard the SRG observatory is an instrument designed for making deep X-ray surveys of the sky. In its first six months of operation, it completed its first all-sky survey eRASS1. Clusters of galaxies, the largest relaxed systems in the universe, are visible by their X-ray emission from hot baryonic matter. eRASS1 resulted in a catalogue of over 12 thousand X-ray detected and optically confirmed clusters. Clusters are important, not only for understanding the astrophysical processes within them, but also as tracers for the largest scale structure in the universe. Using their abundance as a function of mass and redshift we can place constraints on the parameters of cosmological models. I describe the eROSITA survey and present some of its most important results, in particular focussing on clusters of galaxies and the obtained constraints on cosmological parameters, including neutrino masses. I will discuss future prospects from analyses of deeper eROSITA data.

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