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**EP 13: Astrophysics I**

Zeit: Donnerstag 10:15–10:45

Raum: KGI-Aula

**Hauptvortrag** EP 13.1 Do 10:15 KGI-Aula  
**Testing Dark Energy and Dark Matter Cosmological Models with Clusters of Galaxies** — •HANS BOEHRINGER — Max-Planck-Institut fuer extraterr. Physik

Galaxy clusters are, as the largest building blocks of our Universe, ideal probes to study the large-scale structure and to test cosmological models. The principle approach und the status of this research is reviewed. Clusters lend themselves for tests in serveral ways: the cluster mass

function, the spatial clustering, the evolution of both functions with reshift, and the internal composition can be used to constrain cosmological parameters. X-ray observations are currently the best means of obtaining the relevant data on the galaxy cluster population. We illustrate in particular all the above mentioned methods with our ROSAT based cluster surveys. The mass calibration of clusters is an important issue, that is currently solved with XMM-Newton and Chandra studies. Based on the current experience we provide an outlook for future research, especially with eROSITA.