

GR 10: Hauptvorträge Mittwoch: Astrophysik

Zeit: Mittwoch 8:30–10:00

Raum: JUR K

Hauptvortrag GR 10.1 Mi 8:30 JUR K
Supermassive black holes in galaxies: Correlations, coincidences and coevolution — •KNUD JAHNKE — Max Planck Institute for Astronomy, Heidelberg

It has been known for about a decade that supermassive black holes exist in the centers of at least most massive galaxies. This moved the previously deemed exotic class of galaxies with an "active nucleus" e.g. known as "quasars" in their most extreme form, into the focus of galaxy evolution research. Black holes grow and evolve in galaxies, no doubt about this. But do galaxy and black hole growth influence each other? The existence of scaling relations between black hole and galaxy suggests this, e.g. through a potential mechanism of energetic feedback from the black hole into the galaxy and a resulting self regulating loop of black hole and stellar mass growth.

I will review the observational evidence and mechanisms that are seen or proposed to be effective in the apparent coevolution of galaxies and black holes and show the current state of empirical constraints. And I will ask the question whether there are alternatives to an interpretation of the galaxy black hole scaling relations other than a causal

connection of the two.

Hauptvortrag GR 10.2 Mi 9:15 JUR K
Galactic Archaeology — •EVA K. GREBEL — Astronomisches Rechen-Institut, Zentrum für Astronomie der Universität Heidelberg, Mönchhofstr. 12-14, 69120 Heidelberg

Our Milky Way is part of a small group of galaxies, the so-called Local Group. The Local Group contains a variety of galaxies of different types, morphologies, luminosities, and masses. Owing to the proximity of these galaxies we can study them in great detail and can even resolve them into individual stars. These stars are essentially fossil witnesses of past epochs, permitting us to unravel the evolutionary history of these galaxies over billions of years doing true "galactic archaeology". The most frequent type of galaxy is of particular interest: Small, low-mass dwarf galaxies of very low luminosity. Many of these objects were only discovered in recent years. Often they are considered as remnants of the building blocks of large galaxies. They appear to be dark-matter-dominated and play a key role in testing predictions of cosmological models for galaxy formation.