

GR 1: Tutorial: Dark Matter (joint session AKjDPG/T/GR)

Time: Sunday 16:00–17:45

Location: P-HS 1

Tutorial

GR 1.1 Sun 16:00 P-HS 1

Tutorial: dark energy, dark matter and dark statistics —
 •BJOERN MALTE SCHÄFER — Zentrum fuer Astronomie der Universi-
 taet Heidelberg

I will give an overview why cosmology is an interesting branch of theoretical physics and the physics of gravity, the key observations that led to the construction of the cosmological standard model, the fundamental concepts of gravity and of particle physics that are being tested by cosmological observations, and an outlook over the coming decade in new observational techniques.

15 min. break**Tutorial**

GR 1.2 Sun 17:00 P-HS 1

Search for Dark Matter — •CHRISTIAN WEINHEIMER — Institut
 für Kernphysik, Universität Münster

There is multiple and clear evidence from astrophysics and cosmology that exist more matter than we see in the universe. This dark matter should be mainly exotic, i.e. not made out of particles from the Standard Model of particle physics. There are quite a variety of candidates for dark matter, which require different search methods.

In my talk I will present various experimental direct and indirect methods to look for candidates for dark matter at underground laboratories, at collider experiments and by astroparticle physics telescopes. At some characteristic examples I will explain detectors and experimental techniques.