

IMPRS EPP

**Block Course
of the
International Max Planck Research School
on Elementary Particle Physics**

November 23rd to November 25th, 2015

Max-Planck-Institut für Physik, main auditorium

Lectures:

Monday, Nov 23rd from 11:00-12:30

Tuesday, Nov 24th from 11:00-12:30

Tuesday, Nov 24th from 14:00-15:30

Wednesday, Nov 25th from 11:00-12:30

Lecturer: Dr. Christoph Weniger

GRAPPA, University of Amsterdam

Searching particle dark matter in the heavens: methods, signal candidates and constraints

Dark matter makes up about 85% of the mass density in the Universe, but its particle nature remains unknown. Various theoretical models predict that dark matter could self-annihilate or decay, releasing energetic particles that can be searched for as exotic contributions to cosmic-ray, gamma-ray, neutrino, X-ray and radio measurements. In this lecture series, I will present a detailed introduction of the methods used to predict dark matter signals and astrophysical backgrounds, and discuss what we can learn from current observations. I will put emphasize on some of the recently discussed signal candidates, their possible dark matter and astrophysical interpretation, and give an outlook on future developments.

No registration is needed.