FSI3310 Theoretical Astroparticle Physics 7.5 credits

Teoretisk astropartikelfysik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FSI3310 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Quantum mechanics. Theory of relativity.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After completed course, the PhD student should be able to:

- have insights in the new area of research in the intersection between astronomy, cosmology and modern particle physics.

Course contents

Detection of cosmic gamma rays and cosmic neutrinos, cosmic production of neutrinos, cosmic rays, dark matter, Big Bang cosmology, baryogenesis, neutrino mixing, nucleo synthesis, black holes.

Course literature

- **L. Bergström and A. Goobar, Cosmology And Particle Astrophysics, Springer (2006)**
- **C. Grupen, Astroparticle Physics, Springer (2005)**

Examination

- TEN1 - Exam, 7.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Hand in assignments and/or an oral exam.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.