



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Astrophysical black holes: formation and evolution

2122-86R-ABH

Aims

The main aim of this short course is at introducing the formation mechanisms of black holes in the Universe, with particular focus on the massive ones hosted at the centre of galaxies.

Contents

This course will introduce the concept of astrophysical black holes (in particular massive ones) and the problem of the initial mass, currently strongly constrained by observations of high-redshift galaxies. The course will then present the existing formation mechanisms of the so-called 'seed' black holes, from the common ones to more exotic ideas.

Detailed program

Astrophysical black holes: theory and observations

- Formation of stellar black holes
- Massive black holes and the initial mass problem
- Standard formation mechanisms (from first-generation stars to direct collapse)
- Alternative mechanisms (from super-critical growth to beyond the SM physics)

Prerequisites

A degree in Physics or Astrophysics

Teaching form

1 CFU, 10 hours, in English

Textbook and teaching resource

Provided by the teacher

Semester

November-December 2021 (2 hours per week for 5 weeks)

Assessment method

Oral exam

Office hours

Contact the teacher to schedule an appointment
