



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Elementi di Astrofisica

1920-3-E3001Q054

Aims

The aim of the course is to provide an understanding of the problems related to modern astrophysics with particular reference to stellar and extragalactic astrophysics and cosmology. At the end of the course the student will be able to describe the properties of the most important astrophysical sources both from a theoretical and observational point of view.

Contents

Stellar astrophysics. Properties of galaxies and galaxy clusters. Accretion processes and high energy astrophysics. Compact object binaries and gravitational waves. Cosmological model.

Detailed program

1. Observational techniques
2. Outline of stellar structure and evolution
3. Compact objects: white dwarfs, neutron stars and black holes
4. The Milky Way, structure
5. Galaxies: morphology and dynamics
6. The cosmic distance scale and the conceptual tools for their measurement
7. Gravitational waves from compact object binaries
8. Observational evidence of the Big Bang model
9. Introduction to cosmic background radiation.

Prerequisites

Classical mechanics, electromagnetism

Teaching form

Textbook and teaching resource

Dan Maoz: Astrophysics in a nutshell. Ed. Princeton university press.

Semester

III year, first semester

Assessment method

Office hours

Friday 15:30 - 17:30
