

UNIVERSO PRIMITIVO: INFLAÇÃO E ESTRUTURA DE LARGA ESCALA
Mestrado em Física Astronomia
2019-2020

Main subjects list

The list below is a selection of “main subjects” for the student’s investigation project. Students may choose to review one of these main subjects or focus on a specific topic within a main subject. Note that the maximum number of pages is always limited to 15 pages (including images, tables and references). Students may also propose (for approval) to work on a topic not included in this list of main subjects. All students need to identify the topic of the investigation project by the 5th of January 2020.

- Baryogenesis
- Big Bang Nucleosynthesis
- Cosmic Microwave Background radiation
- Cosmic Neutrino Background
- Dark Energy modelling
- Dark Matter
- Density perturbations from inflation
- Electroweak phase transition and the Higgs mechanism
- Grand Unification Theory phase transition
- Gravitational waves from inflation
- Inflation: models and predictions
- Modified Gravity theories
- Quantum Cosmology: towards the Planck time.
- QCD phase transition: the “origin” of protons and neutrons
- Primordial Non-Gaussianities
- Primordial Blackholes
- Recombination and Decoupling
- Relativistic perturbation theory
- Structure Formation: Evolution of perturbations after inflation