Name-Surname	Ioanna Stamou
Thesis Title	*Primordial Cosmological Perturbations from inflation and supergravity*
Supervisor	V. Spanos, Associate Professor
Summary	In this master thesis we study primordial cosmological perturbations, that are related to inflationary models based on supergravity. After an introduction to the basic aspects of cosmological inflation, we study in details the theory of the cosmological perturbations in the context of the theory of general relativity. Then we related them to modern observations on cosmic microwave background (CMB). In particular, by studying the adiabatic scalar and tensor fluctuations, we derive the so-called Mukhanov Sasaki equation, and through this we estimate the mainparameters of the inflationary models. Afterwards we apply this kind of analysis to a particular supergravity model, the Starobinsky-like no-scale model, which is highly consistent with Planck experimental results. In addition, we study the connection between the inflation parameters and current and future CMB observables.
Key words	Supergravity, inflation, primordial gravitational waves, cosmological perturbations, CMB anisotropies
Evaluation committee	V. Spanos, Associate Professor A. Lahanas, Professor N. Tetradis, Professor