

The main goal of this bachelor thesis is to describe upcoming experiment ATLAS Upgrade and to compare it with present ATLAS, to describe upcoming tests of detectors and our own tests of prototypes of strip silicon detectors for the ATLAS Upgrade. Thesis is divided into three chapters. The first chapter is dedicated to the research facility CERN, specifically the present detector ATLAS, its inner detector and strip silicon detectors. In the next part there is characterized planned detector ATLAS Upgrade and again its inner detector and strip detectors. In the end of this part there is a tabular comparison of ATLAS and ATLAS Upgrade. The last chapter deals with the testing of detectors, at first routine testing of detectors in the past for ATLAS and planned routine tests for ATLAS Upgrade, and finally there are described our own tests of prototype the strip silicon detectors in FZÚ AV ČR supervised by Ing. Marcela Mikeščíková, Ph.D.