

Atomic force microscopy (AFM) is a young and widely used method of imaging surface, nanostructures, biological and other sensitive objects using sharp tip on a flexible cantilever scanning the sample surface. When operating in air it reaches resolution of about several nanometers. The resolution is mainly dependent on the used tip. The thesis deals with modification of old tips by carbon nanotubes (CNT) in scanning electron microscope (SEM) using techniques including focused ion beam (FIB) and gas injection system (GIS). Several procedures of CNT sample preparation and attaching the CNT on tip are presented. The functionality of modified tips was checked in AFM using the calibration sample consisting of well-defined nanostructures.