Abstract

The current essay deals with the Kelvin probe Force Microscopy (KPFM) technique. In the first chapter, the basic theoretical background is set together with some practical aspects that are crucial for the proper implementation of the experiments. In chapter 2, we focus on the most relevant parameters for the technique in order to figure out the manner and extent of their effect on the electrical and electronic properties of the surfaces. In chapter 3, the results from KPFM measurements from PTFE thin films with embedded ZnO nanoparticles under high concentration are presented and discussed. Finally, in chapter 4, we sum up all the basic conclusions from chapters 2 and 3 and we draw some guidelines for future research efforts.