Special Issue

Development and Applications of Force Microscopy Techniques

Message from the Guest Editor

The development of the family of scanning probe microscopes (SPM) started in 1981 with the invention of the STM (scanning tunneling microscope). In 1986, atomic force microscopy (AFM) was developed and since then, due to its versatility in measuring interactions of different origins at the nanoscale, it has become a very powerful tool for characterizing a large variety of nanomaterials, such as nanoparticles, nanowires, low dimensional materials and biological samples such as molecules, viruses or proteins. Frequently denoted as scanning force microscopy (SFM), these techniques can be used not only as a tool for topography acquisition but also to detect a widespread variety of interactions, such as magnetic interaction, chemical forces, mechanical properties, electronic transport properties, surface potential, and thermal gradients with extraordinary sensitivity and resolution. In summary, this Special Issue is open to any contributions describing novel developments in any of the aspects of force microscopy from experiments and instrumentation to theory.

Guest Editor

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Deadline for manuscript submissions

closed (20 November 2021)

Materials

an Open Access Journal by MDPI

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