Realization of a high speed atomic force and optical microscope

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Research axis: *innovative imaging*

In the recent years, super-resolution microscopy based on the super-localization of single molecules has made several advances in the field of optical microscopy. The robust localization of nano-objects at the nanometers scales requires exceptional mechanical stabilities over the time course of the experiments (minutes to hours). Such requirements are becoming highly similar to those of high speed atomic force microscopy. We can thus optimize the mechanical design of the microscope in order to use both techniques in a complementary way. We can for example use optical strategies to generate errors signals for real time microscope stabilization needed by both kind of microscopy imaging.