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Optical tweezing

Friday 3 April 2009 12:00 (30 minutes)

Since its first demonstration, optical tweezing, i.e. the capability of manipulating objects on the micro- and nano-metric scale by a focused laser beam exerting a force depending on the refractive index mismatch between the object and its surrounding, has raised a growing interest from many fields of research: physics, biology, medicine, material science, etc. In order to demonstrate the mechanisms of optical trapping, and to allow students to directly observe and manipulate micrometric objects (latex spheres and living bacteria) we have developed a compact optical tweezer based on a infrared laser source. We will describe our approach and give some perspectives about the use of the device.

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Session Classification: Exchanging experiments