Título: Optical Trapping And Manipulation Of Neutral Particles Using Lasers: A Reprint

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This important volume contains selected papers and extensive commentaries on laser trapping and manipulation of neutral particles using radiation pressure forces. Such techniques apply to a variety of small particles, such as atoms, molecules, macroscopic dielectric particles, living cells, and organelles within cells. These optical methods have had a revolutionary impact on the fields of atomic and molecular physics, biophysics, and many aspects of nanotechnology. In atomic physics, the trapping and cooling of atoms down to nanokelvins and even picokelvin temperatures are possible. These are the lowest temperatures in the universe. This made possible the first demonstration of Bose-Einstein condensation of atomic and molecular vapors. Some of the applications are high precision atomic clocks, gyroscopes, the measurement of gravity, cryptology, atomic computers, cavity quantum electrodynamics and coherent atom lasers.