Generating Robust Forces by Pulsed Adiabatic Rapid Passage on Metastable Helium

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Adiabatic Rapid Passage is used to produce optical forces much stronger than the ordinary radiative force. Using the 2^3S -2^3P transition in metastable Helium we show our measurements of such optical forces. To determine their velocity spread we mimic the atomic motion through detuning that stimulates Doppler shifts.

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