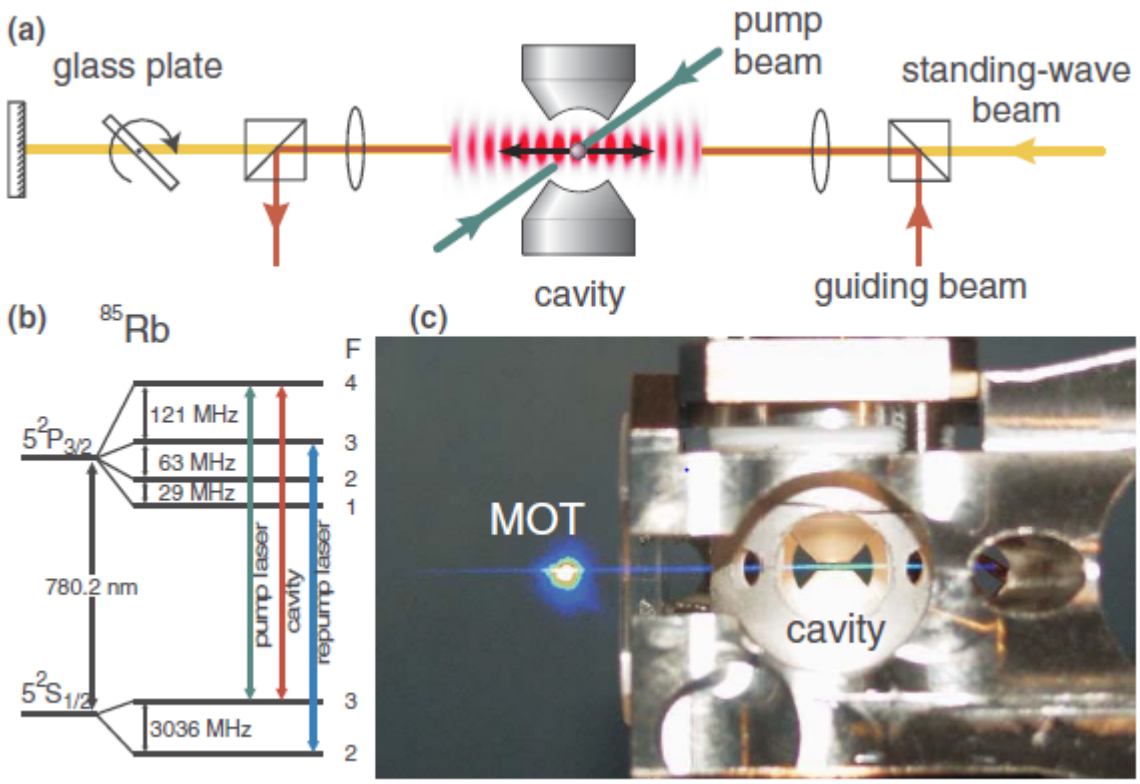
Q&A

How to trap an atom at the center of cavity?

1. MOT
2. Move atom with conveyor belt using red detuned laser (1030nm, 5W) running wave dipole trap – 14mm
3. Switch from guide light to standing dipole trap

4. Tilting the glass plate to precisely adjust the position of the atom at the center of cavity ($\pm 250\mu m$)
→ tuning the coupling
5. Moving range limited by the thickness(3mm) of the glass plate
6. Measuring the transmission of the reflected probe field through the cavity have an atom inside with unbalanced cavity to find out the position



G. Rempe, PRL **95**, 173602 (2005)
G. Rempe, PRL **110**, 223003 (2013)

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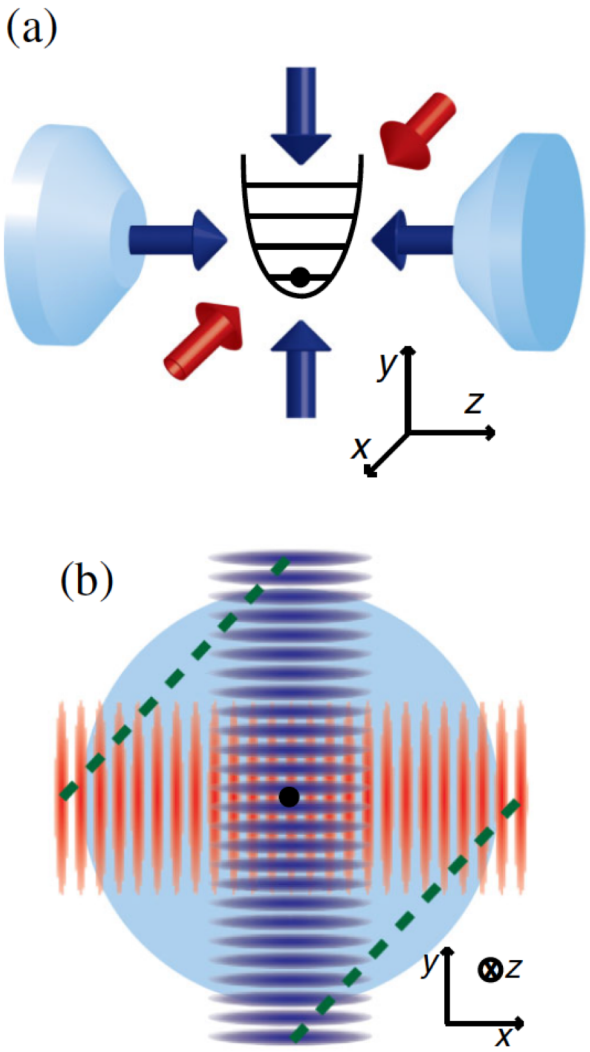

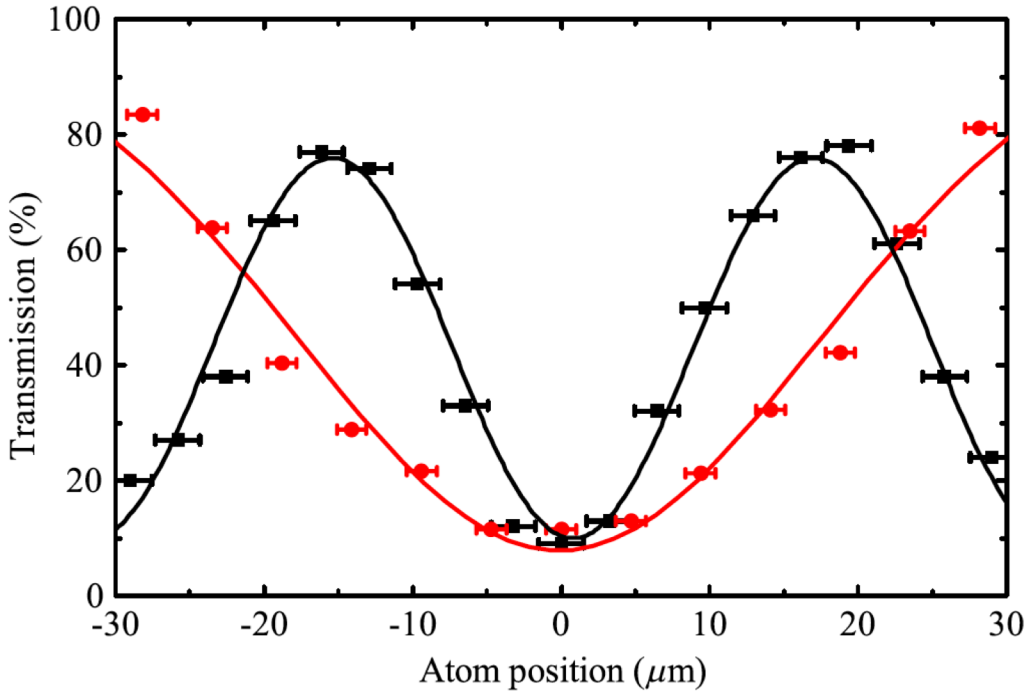

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