# **Towards single sodium atom in ODT**

Yichao Yu

Ni Group/Harvard

December 1, 2014

1/7

Sodium ODT beam path

Further characterization of the cesium trap

Sodium MOT

# **Sodium ODT beam path**

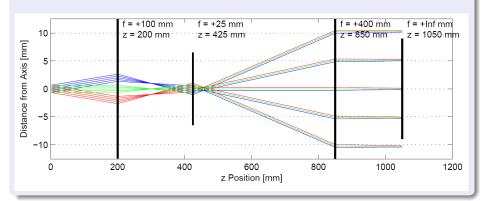
It works.

It works.

• It works.

- It works.
- But it doesn't integrate into the current beam path very well.

- It works.
- But it doesn't integrate into the current beam path very well.
- Solution.

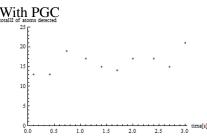


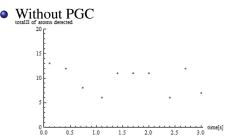
- ODT with non-magic wavelength.
- Lifetime.
- Temperature. Measured with release and recapture.

- ODT with non-magic wavelength.
- Lifetime.
- Temperature. Measured with release and recapture.

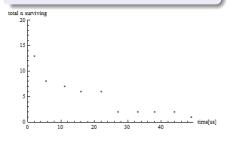
- ODT with non-magic wavelength.
- Lifetime.
- Temperature. Measured with release and recapture.

- ODT with non-magic wavelength.
- Lifetime.
- Temperature. Measured with release and recapture.

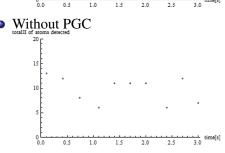




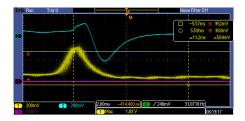
- ODT with non-magic wavelength.
- Lifetime.
- Temperature. Measured with release and recapture.



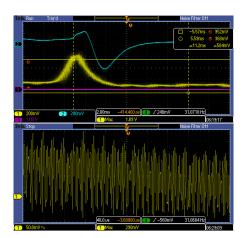
# With PGC total of atoms detected 25 20 15 10 5



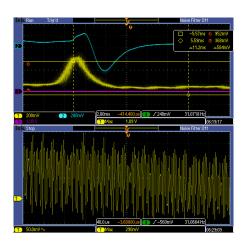
- No sodium MOT.
- Laser noise.

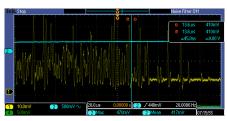


- No sodium MOT.
- Laser noise.



- No sodium MOT.
- Laser noise.





- No sodium MOT.
- Laser noise.

