

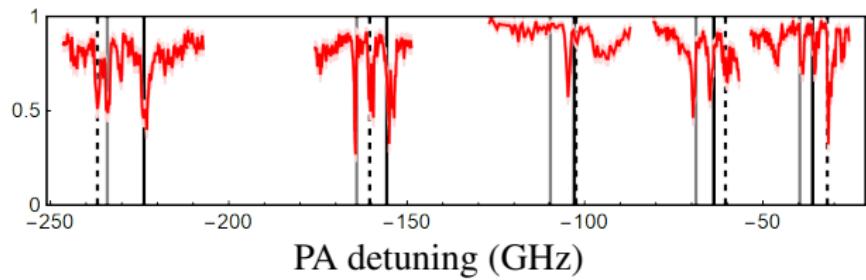
NaCs lab update

Yichao Yu

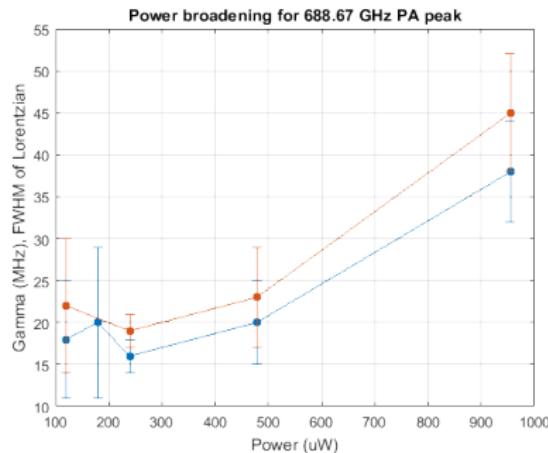
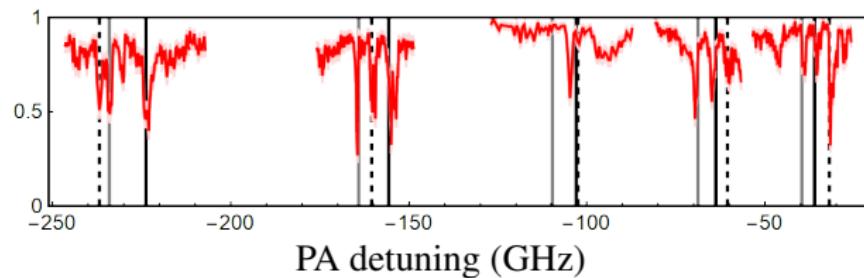
Ni Group

April 06, 2018

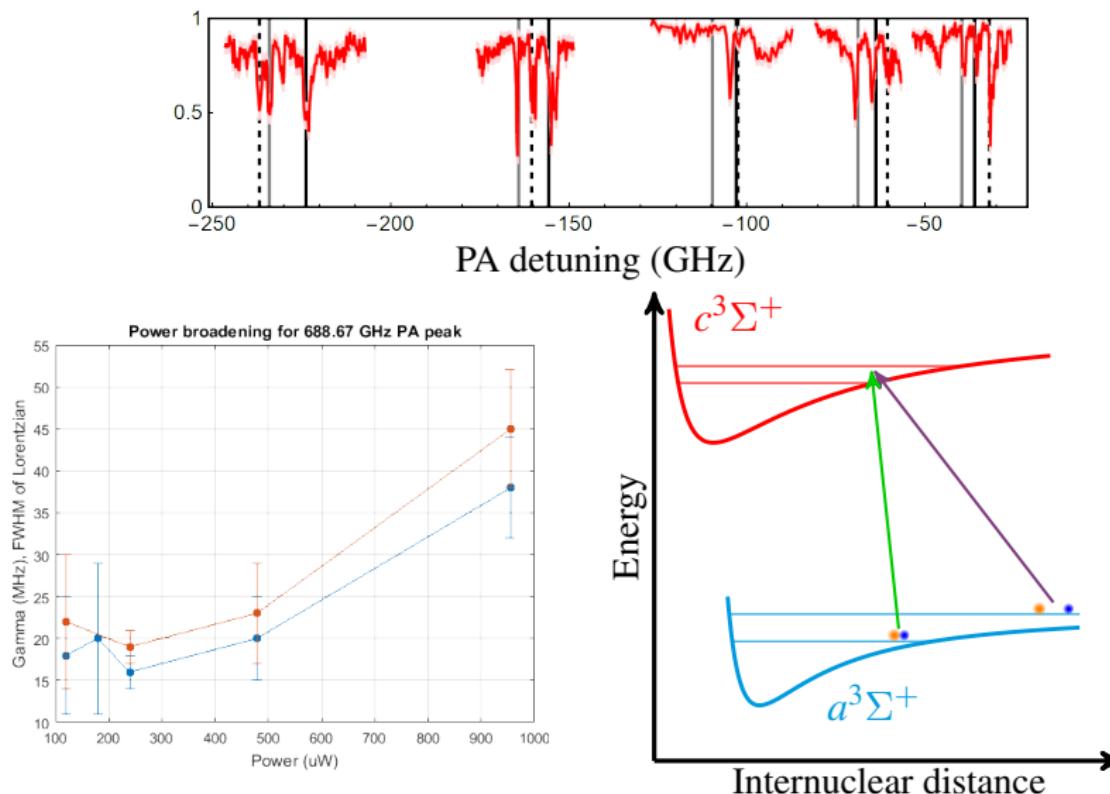
Photoassociation/EIT



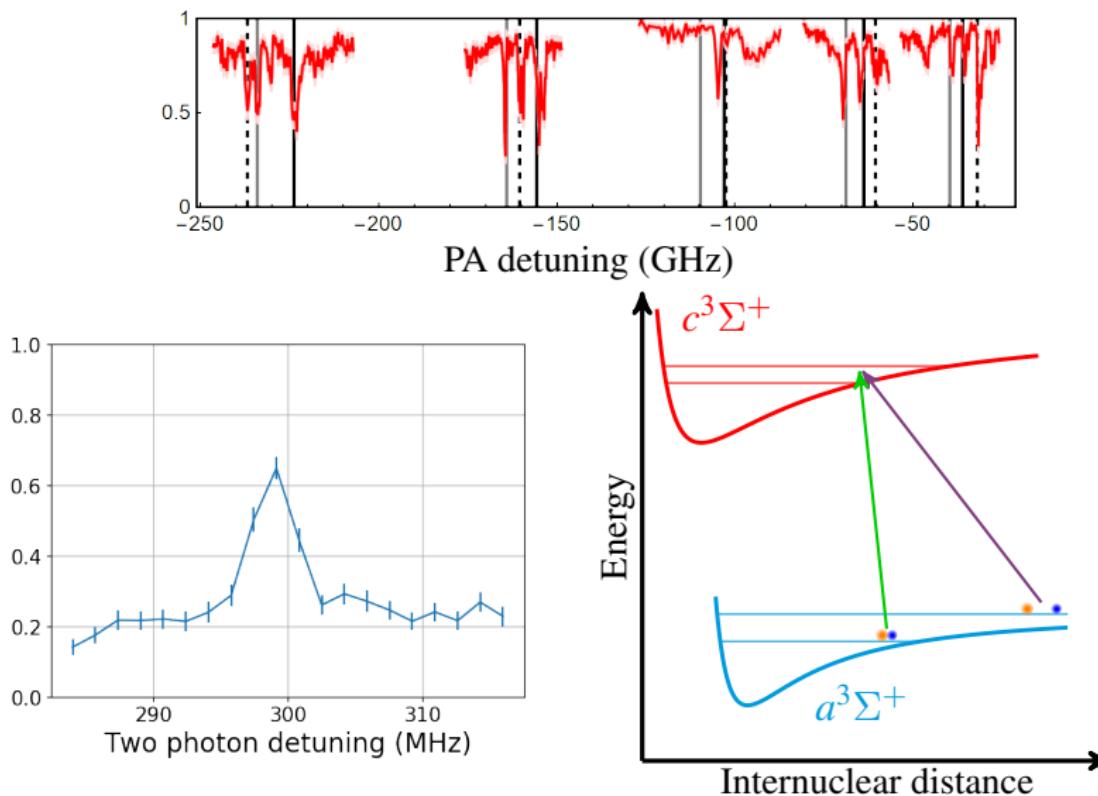
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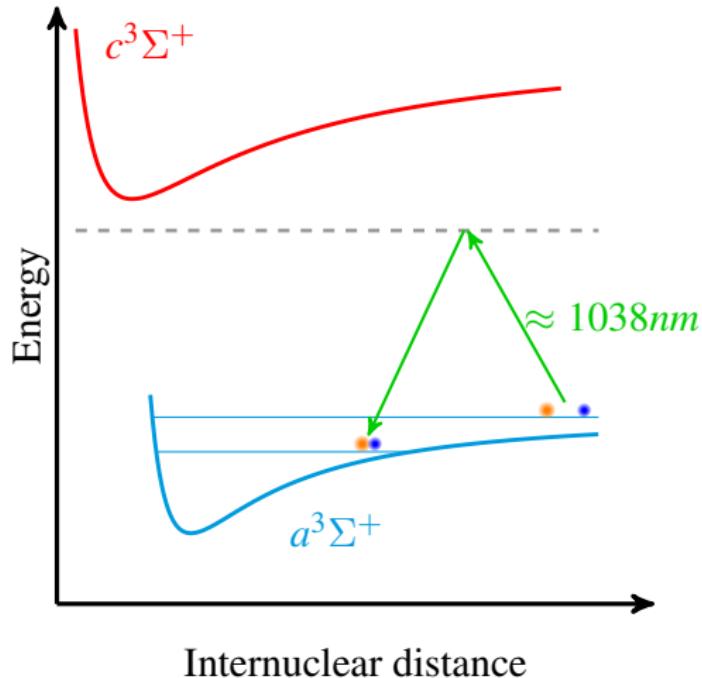
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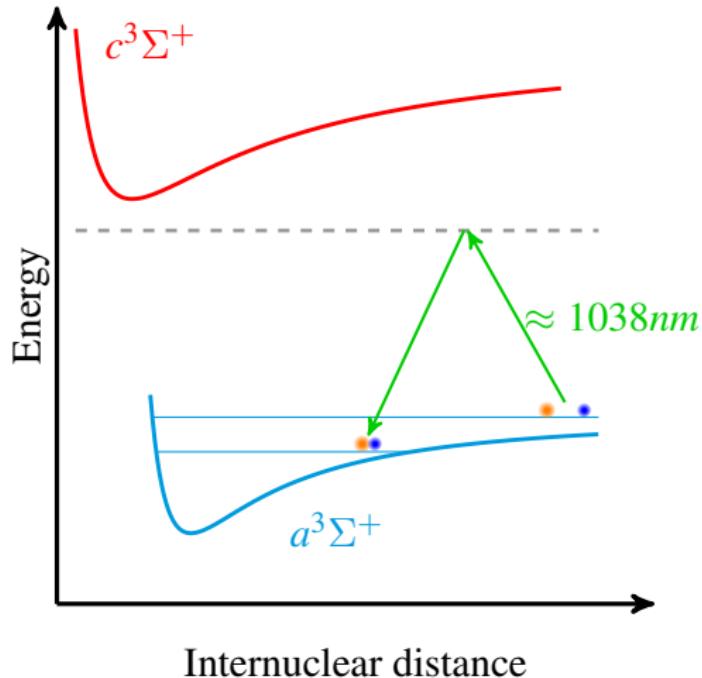


Getting to ground electronic state



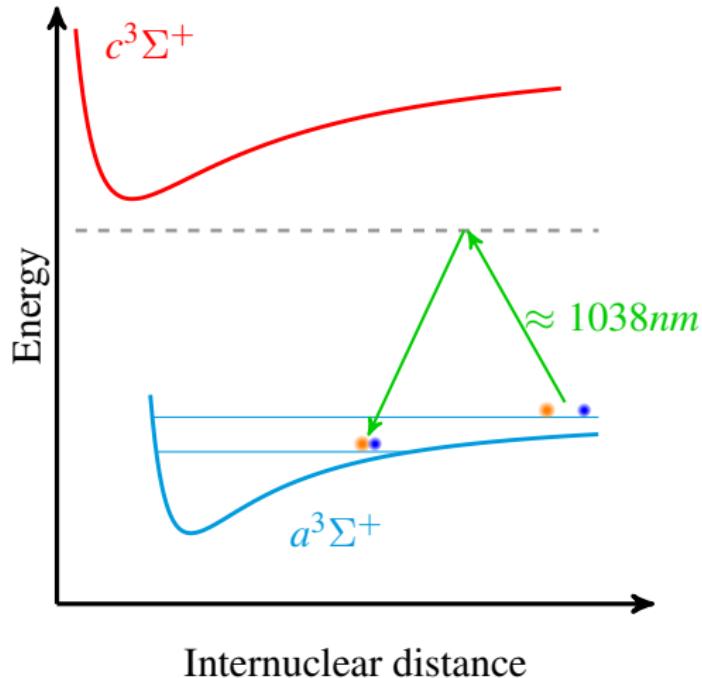
- New laser
- New beam path
- PA on deeply bound state
- Lesson about mirror mount

Getting to ground electronic state



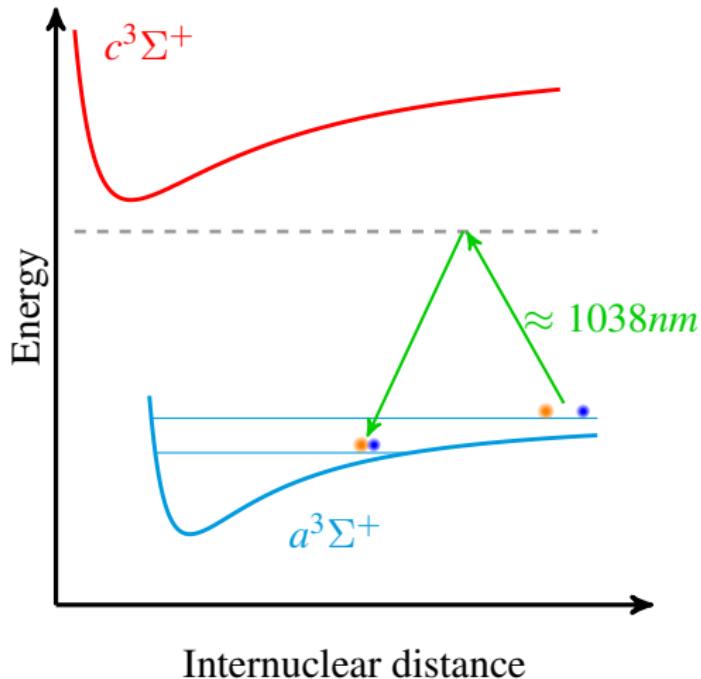
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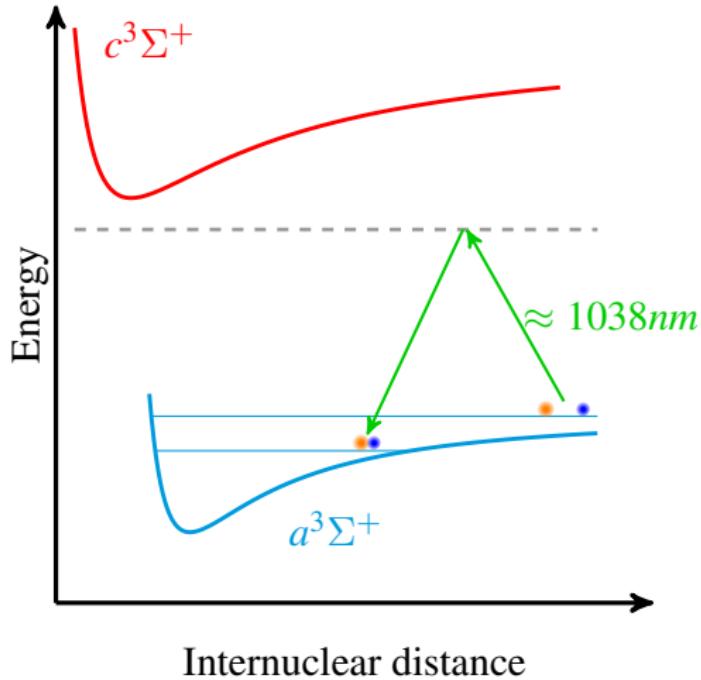
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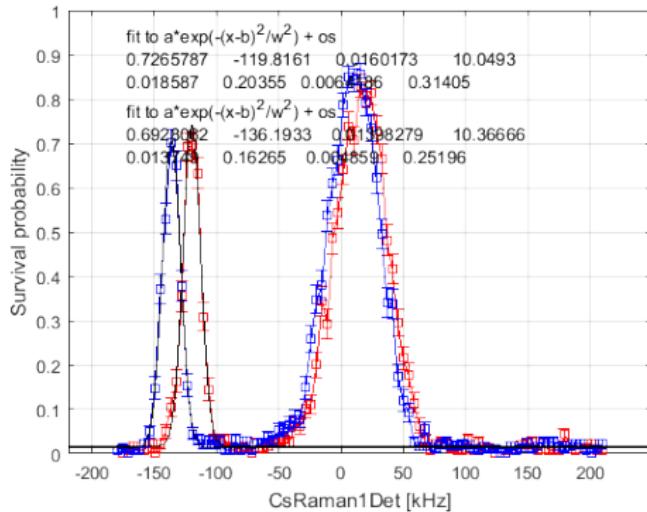
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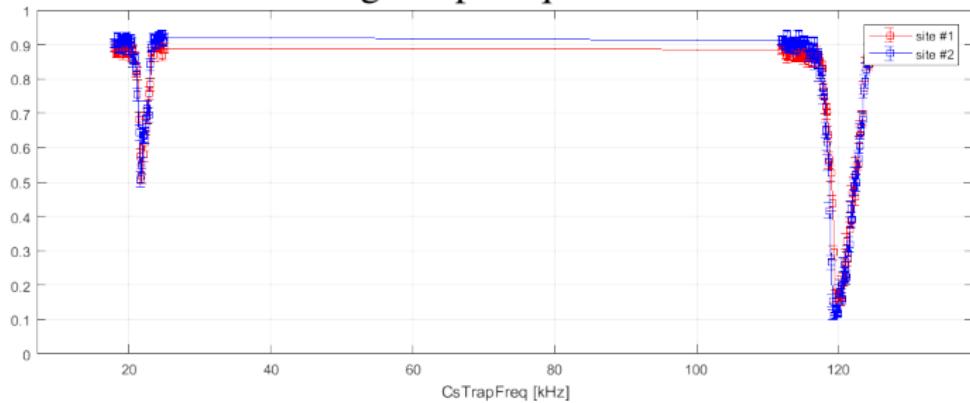
Cooling multiple atoms



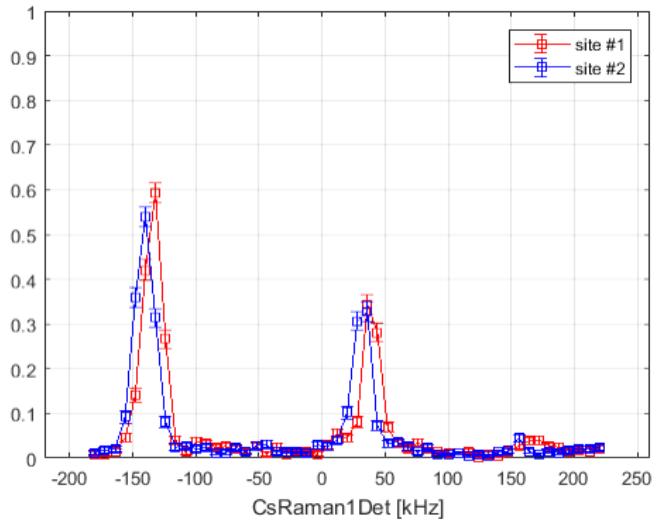
Very different sideband frequencies

Cooling multiple atoms

Align trap frequencies

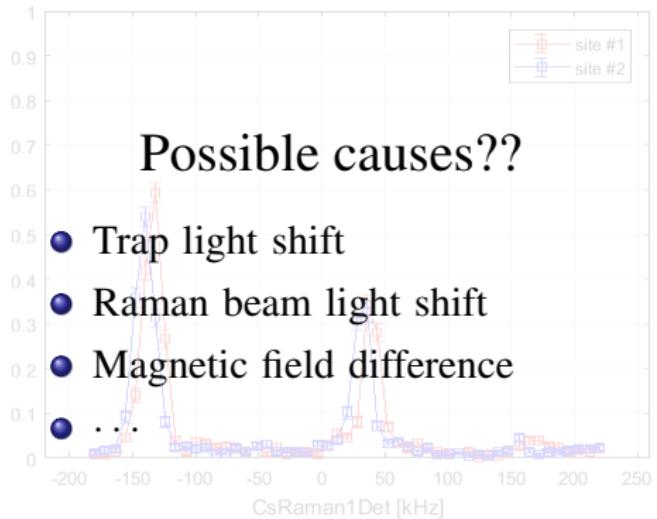


Cooling multiple atoms



Overall shift on both carrier and sideband.

Cooling multiple atoms



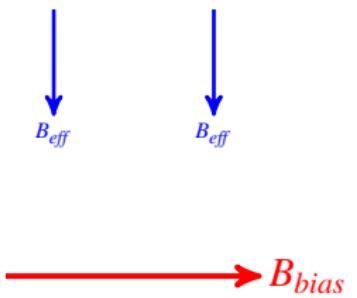
Alignment between tweezer polarization and B field

- Tweezer circular polarization
- Tweezer rotation



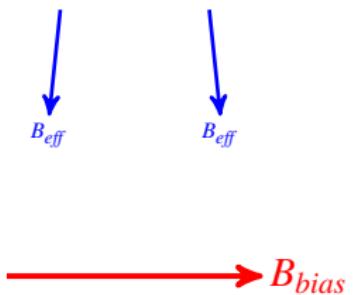
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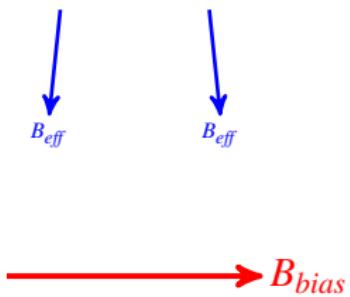
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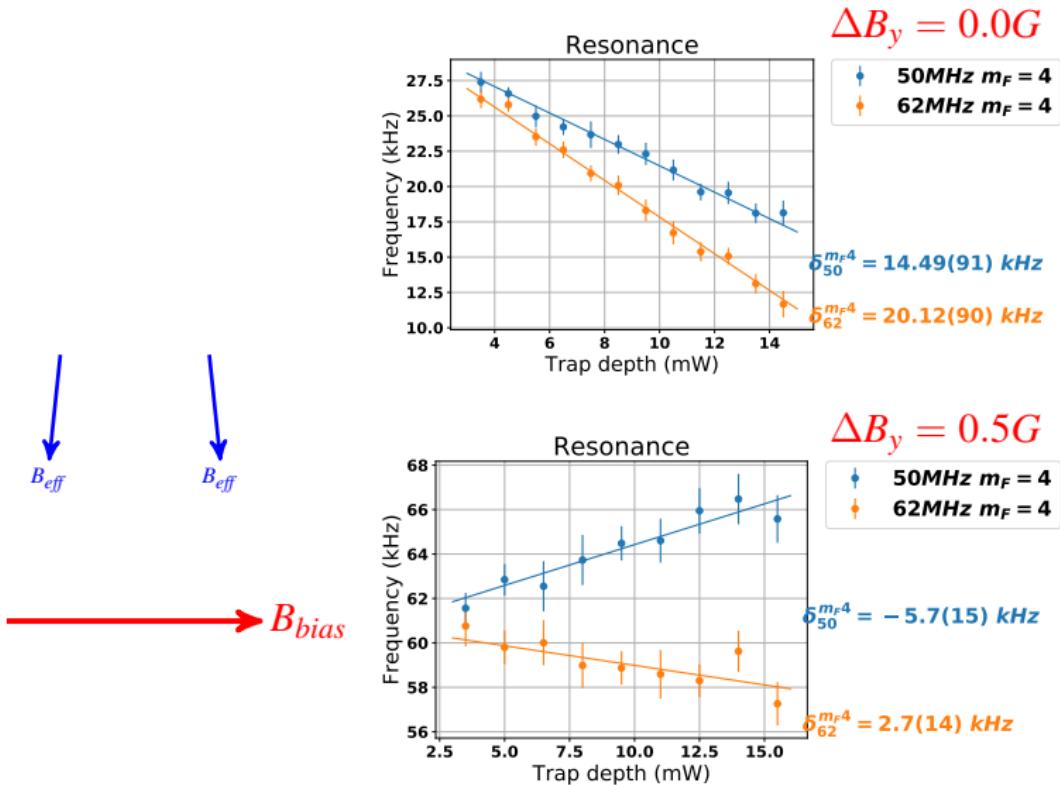
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Sensitive to ...

- Tweezer polarization
- Tweezer alignment
- B field direction
- Hyperfine state

Alignment between tweezer polarization and B field



Alignment between tweezer polarization and B field

