

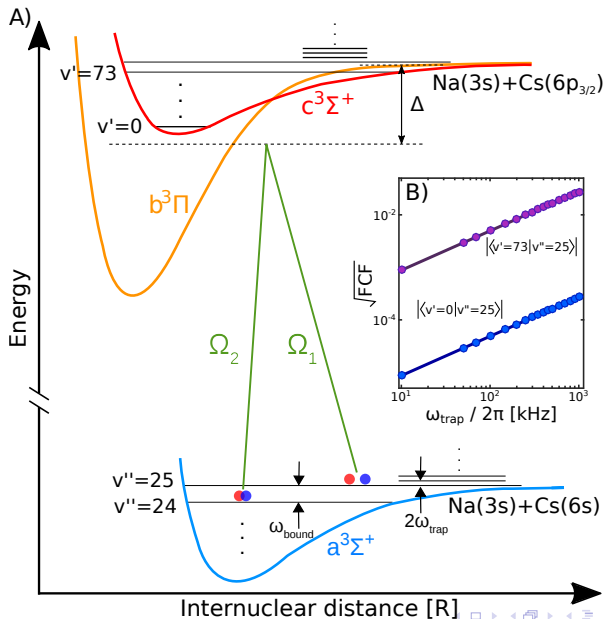
# NaCs<sup>\*</sup> update

Yichao Yu

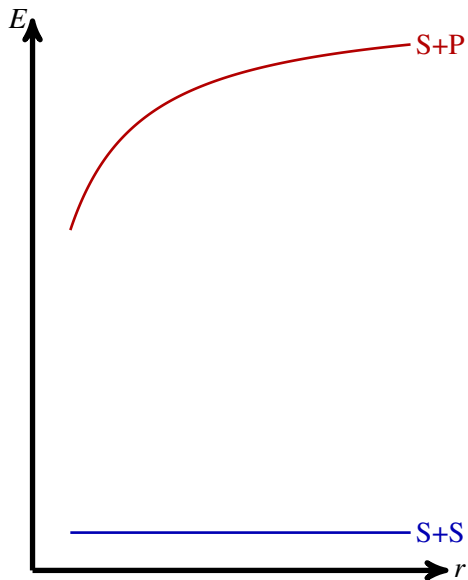
Ni Group/Harvard

Sep. 22, 2017

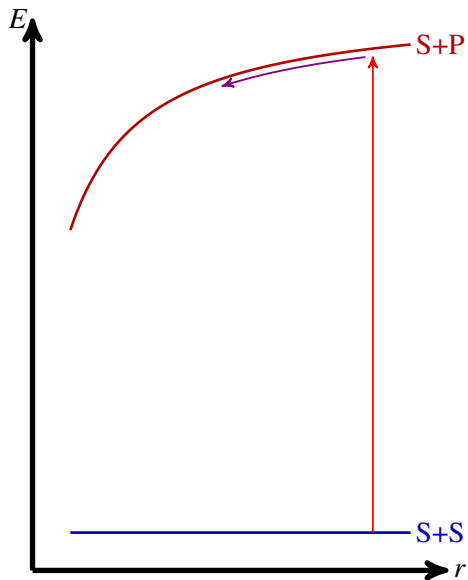
# Making molecules



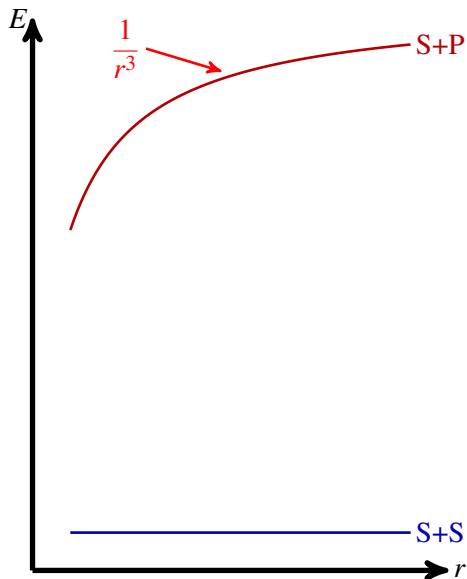
## Light-assisted collision



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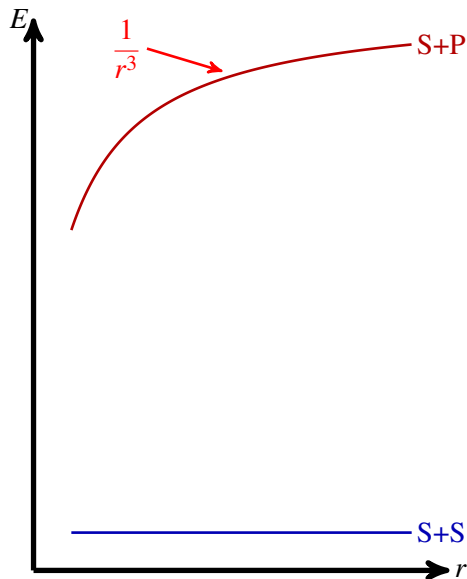
$$V_{Cs+Na} \propto \frac{1}{r^6}$$

$$d_{Cs,S \rightarrow P} \approx 11.4D$$

$$V_{Cs+Cs}(100\text{nm}) \approx 4\text{MHz}$$

$$V_{Cs+Na}(5\text{nm}) \approx 4\text{MHz}$$

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### Conclusion

Photo association between Na and Cs requires much higher intensity.

# Two body loss

# Photo association



# Current/next step