

Abstract Submitted  
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**Radiative Relaxation of Sodium Diatomic Molecules**<sup>1</sup> TIM HORTON, JACOB MCFARLAND, BURCIN BAYRAM, Miami University — We have measured the radiative lifetime of the  $A^1 \Sigma_g^+$  (8,30) rovibrational level of sodium diatomic molecule by using a 6-ns tunable pulsed laser. Sodium dimers are created in a heatpipe oven at 300 K and argon is used as buffer gas. Analysis of the exponential decay of the cascade photons allows us to extract the lifetime of the rovibrational level. By varying the pressure of the heatpipe collisional cross section can be extracted.

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