

Abstract Submitted  
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**Measurement of the OH-He and OH-D<sub>2</sub> absolute collision cross-sections from 85 to 460 K**<sup>1</sup> BENJAMIN STUHL, JILA / University of Colorado at Boulder and National Institute of Standards and Technology — While recent surveys have yielded a large increase in the number of known OH megamasers, detailed simulations of their mechanism have so far been strongly hampered by a lack of knowledge of the collisional properties of the OH-H<sub>2</sub> and OH-He systems. Using a Stark-decelerated and magnetically trapped OH sample and a cryogenic crossed beam, we have measured the absolute total OH-He scattering cross-section over a temperature range of 85-331 K and that of the OH-D<sub>2</sub> system over 209-460 K. These measurements should provide strong guidance to efforts to calculate the cross-sections at lower temperatures.

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