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1+1 REMPI of SiO for loading cold SiO^+ into an ion trap[1]

PATRICK STOLLENWERK, IVAN ANTONOV, BRIAN ODOM, Department of Physics, Northwestern University — Performing spectroscopy on molecular ions is difficult due to low phase space density of thermal populations and low number densities from Coulomb repulsion. Rapid and efficient loading of an ion trap is important for gathering the necessary statistics to study internal state dynamics and long-lived states of molecular ions. In this talk we present our measurement of the IP and 1+1 REMPI spectrum of SiO and discuss a fortuitous near ionization threshold feature that allows for efficient loading of rotationally and vibrationally cold SiO^+ into an ion trap.

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