

Abstract Submitted  
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**Terahertz Time-Domain Spectroscopy of Ices of N<sub>2</sub>, CO<sub>2</sub>, and Ar**<sup>1</sup> BAGVANTH R. SANGALA, PERRY A. GERAKINES, DAVID J. HILTON, Department of Physics, The University of Alabama at Birmingham, AL 35294-1170, USA — We used Terahertz Time-Domain Spectroscopy (THz- TDS) to study thin ice films of N<sub>2</sub>, CO<sub>2</sub>, and Ar from 0.1 -1.6THz. We observed an absorption line for N<sub>2</sub> ice films at 1.46THz in the temperature range of 10-28K. Ar ice films have absorption lines at 0.47THz and 0.97THz in the temperature range of 10-30K. We observed no absorption line for CO<sub>2</sub> ice films in the temperature range of 10-40K from 0.1-1.6THz. These results will be helpful in analyzing the data terms from observations of THz radiation from astronomical sources impinging upon interstellar materials.

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