

Abstract Submitted  
for the OSF08 Meeting of  
The American Physical Society

**Terahertz spectroscopy of gas phase molecules for chemical physics applications** DOUGLAS T. PETKIE, Wright State University — By far the most successful chemical physics application in the terahertz region has been high resolution spectroscopy of gas phase molecules. Laboratory investigations probe the molecular structure and intramolecular forces of a molecule and make possible the expansive databases for monitoring chemical species in the upper atmosphere and identification of molecules in the interstellar medium. Translating these technologies to terrestrial applications can be challenging due to broad line widths at atmospheric pressures. An overview of laboratory and remote sensing applications will be presented as well as the challenges of terrestrial remote sensing.

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Date submitted: 29 Sep 2008

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