Abstract Submitted
for the DFD17 Meeting of
The American Physical Society

Infrasonic Emissions From A Tornado CHRISTOPHER PETRIN, BRIAN ELBING, Oklahoma State University — Tornadoes cause dozens of deaths and significant damage throughout the United States every year. Tornado-producing storm systems emit infrasound (sound at frequencies below human hearing) up to 2 hours before tornadogenesis. Weak atmospheric attenuation at these frequencies allows them to be detected hundreds of miles away. Hence, passive infrasonic monitoring may be used for long-range study of tornadogenesis. This requires characterization of infrasound during the life of a tornado and from other background sources. This is being accomplished as part of the Collaboration Leading Operational UAS Development for Meteorology and Atmospheric Physics (CLOUD-MAP) project, a multi-university collaboration focused on the development and implementation of unmanned aerial systems (UAS) and their integration with sensors for atmospheric measurement. This presentation will report findings from a fixed infrasonic microphone that has been continuously monitoring the atmosphere since September 2, 2016. Infrasound from a tornado that occurred 19 km from the microphone on May 11, 2017 will be presented as well as an overview of other infrasonic observations.
*This work was supported by NSF Grant 1539070

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Date submitted: 31 Jul 2017 Electronic form version 1.4