

Abstract Submitted
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Geophysical Measurements Using a Ring Laser¹ ANGELA LAMB,
Hendrix College — Low frequency infrasound from weather related events has been studied for a number of years. In this poster, the results from using a large active ring laser as an infrasound detector are presented. A slightly modified cavity design enhances the interferometers sensitivity to infrasound. Our results qualitatively agree with several findings from a long term study of weather generated infrasound by NOAA. On April 27, 2014, the 66 km track of an EF-4 tornado passed within 21 km of the ring laser interferometer. An FFT of the ring laser interferometer output revealed a steady tornado generated frequency of 0.94 Hz. The track also passed close to the US Array Transportable Station W41B. This provided the opportunity to examine both the infrasound and ground motion generated by the tornado. Infrasound from three other tornadoes is also included. In all cases the infrasound was detected approximately 30 minutes before the tornado funnel was observed.

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