INFRASOUND TRANSMISSION IN THE "SHADOW ZONE" OBSERVED ON BALLOONS IN THE LOWER STRATOSPHERE

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Balloon pad at Esrange Space Center, 2020-08-20

Infrasound payload boxes prepared for launch
Launch 2020-08-20, 06:00LT

Simulated trajectory

True trajectories
REFERENCE BLAST SHOT 1 AT 08:30LT

Image courtesy Craig Heinselman, EISCAT
BALLOON LOCATIONS @ SHOT 1
SHOT 1 REGISTRATIONS

Black line upper payload and blue line lower payload. Scale bar denotes 0.1 Pa.
SUMMARY

• We have used tethered infrasound balloon sensors to study the three-dimensional acoustic wave field in the stratosphere.

• It seems we have for the first time captured upgoing leakage of acoustic energy from a tropospheric waveguide.

• Some of the next steps include further evaluating the leaky waveguide hypothesis using the Weather Research and Forecasting (WRF) model and radiosonde data.
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