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the sensitivity of the IMS Infrasound Network using Balloon-Borne Microphones

Recent experiments with balloon-borne infrasound sensors suggest that they have lower noise levels and an increased signal detection range compared to ground based microphones. They can also travel over regions that lack station coverage, such as polar regions and the open ocean. However, current designs cannot determine the arrival azimuth of incident signals and cannot maintain a constant location. We discuss the noise levels recorded on recent balloon infrasound experiments in comparison with IMS baselines. We evaluate the effect on IMS network sensitivity from a single sensor traveling over regions that lack ground coverage. Finally, we present a conceptual model of a continuous IMS balloon network providing coverage over the Southern Hemisphere.

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