

The prompt detection and identification of near-surface explosions is a key element of nuclear non-proliferation monitoring. For yields greater than  $\sim 1$  ton, costly infrasound microphone networks and arrays are traditionally deployed at surveyed locations. However, explosions may be observed by low-cost IoT and attritable sensors. We tap into the abundance of smartphone IoT sensors through the RedVox application and compare explosion signatures collected on smartphones to those from a legacy B&K infrasound microphones. The explosions consisted of a Fuel Air Explosive (FAE) and two other detonation materials. We compared the raw waveforms, power spectral density, and time frequency representations of the signals.