

The IARPA Passive Ionospheric Non-characterized Sounding (PINS) Challenge

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The Intelligence Advanced Research Projects Activity (IARPA), within the Office of the Director of National Intelligence (ODNI) will soon launch the Passive Ionospheric Non-characterized Sounding (PINS) Challenge. This Challenge will invite contestants to develop innovative solutions and methods to passively derive ionospheric characteristics from non-networked ionospheric sounders. Deriving ionospheric characteristics from passive reception of an active sounder is a straightforward process when the sounder's waveform is known and provided by a networked/public domain sounder. However, reception from a non-networked sounder is a challenge due to the lack of knowledge of the waveform and timing used for transmission. The PINS Challenge invites individuals from around the world to develop passive ionospheric sounding (i.e. oblique ionosonde) retrieval techniques to accurately characterize, monitor, and model ionospheric variability through passive reception of multiple active-based sounders at different locations. For algorithm training, participants will be given ionosonde data collected for the IARPA High Frequency Geolocation (HFGeo) program. The goal of PINS is to build a global community working to benchmark research and foster innovation in ionospheric characterization through crowdsourcing.