

Note: 4-page summary is not required.

## Radio Aurora Explorer and Coherent Scatter Capability for UHF Incoherent Scatter Radars

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The Radio Aurora Explorer Cube-Sat mission is a ground-to-space bi-static radar experiment utilizing UHF incoherent scatter radars (PFISR, RISR, Millstone, ESR, and Arecibo) to measure plasma turbulence from mid-to-high latitudes in the altitude range 80-500 km. The experiment provides common-volume measurements of (1) ionospheric irregularities with high spatial/angular resolution and (2) quiescent plasma parameters using incoherent signals. RAX I was launched in 11/2010 and conducted a successful radar experiment with PFISR, however, it is currently experiencing power issues. Meanwhile, RAX II is to be launched in 10/2011.