

## Technical Page

Proposal Type: Large  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: SETI  
 Total Time Requested: 2400 Hours

**Proposal Title:** Project Phoenix: SETI Targeted Search Observations

*ABSTRACT:*

This is a search for radio signals transmitted by another technology from the vicinity of nearby solar-type stars. The dual polarization search detects narrowband CW and pulsed signals, that may be drifting slowly, over 1.3 to 3.0 GHz. 300 second observations can detect  $1 \times 10^{11}$  W EIRP transmitters at 100 ly. Candidates are immediately followed up by a pseudo-interferometer formed by Arecibo and the Lovell Telescope to discriminate against RFI.

| Name           | Institution    | E-mail               | Phone        | Student |
|----------------|----------------|----------------------|--------------|---------|
| Jill C. Tarter | SETI Institute | tarter@vger.seti.org | 650-960-4555 | no      |

I do NOT want to do remote observing.

### Instrument Setup

430 G                      L-wide                      S-low

### Atmospheric Optical Instruments:

**Description of Observer Equipment:** 15 ton backend equipment van (MRF), 45 KVA transformer, 2

IF racks, down converter rack, 3 X-terms/CPU's, drives, MAC, 5 KVA UPS, FAX, various hubs and modems for data communication. Inplace fiber network. Network equipment for 64 kbs WAN to Jodrell Bank.

**Special Equipment or setup:** various co-ax switches and amplifiers/filters for quick change, to get spectral power density and dynamic range to Phoenix values. Concrete pad for MRF with power, fiber, and phone.

Ethernet connection to telescope and receiver control computer and mods to software interface to accept antenna pointing and receiver tuning commands from Phoenix system.

all recording done on user supplied DAT drives.

### RFI Considerations

### Frequency Ranges Planned

1300 - 3000

This proposal requires Iridium RFI protection at 1612 MHz between 10pm and 6am EST.

This proposal requires coordination with Punta Salinas radar within the band 1222-1381 MHz..

This proposal requires coordination with GPS L3 at 1381 MHz.

This proposal requires coordination with AFTWF within the band 425-435 MHz.