HAARP is a scientific endeavor aimed at studying the properties and behavior of the ionosphere, with particular emphasis on being able to understand and use it to enhance communications and surveillance systems for both civilian and defense purposes.

The HAARP program is committed to developing a world class ionospheric research facility consisting of:

- The Ionospheric Research Instrument (IRI), a high power transmitter facility operating in the High Frequency (HF) range. The IRI will be used to temporarily excite a limited area of the ionosphere for scientific study.
- A sophisticated suite of scientific (or diagnostic) instruments that will be used to observe the physical processes that occur in the excited region.

Observation of the processes resulting from the use of the IRI in a controlled manner will allow scientists to better understand processes that occur continuously under the natural stimulation of the sun.

Scientific instruments installed at the HAARP Observatory will be useful for a variety of continuing research efforts which do not involve the use of the IRI but are strictly passive. Among these studies include ionospheric characterization using satellite beacons, telescopic observation of the fine structure in the aurora, and documentation of long-term variations in the ozone layer.

Also see:
- The Value and Importance of Ionospheric Research
- More detailed Fact Sheet
- Purpose as discussed in the EIS
- Frequently Asked Questions
- Current Facility Status

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