

**HIGH FREQUENCY ACTIVE
AURORAL RESEARCH PROGRAM**

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GEOPHYSICAL INSTITUTE

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Date: July 21, 2025
To: Amateur Radio & Radio Astronomy Communities
From: HAARP Program Office
Subject: Notice of Transmission

The High-frequency Active Auroral Research Program (HAARP) will be conducting a research campaign July 23-24 UTC, with operating times specified in the table below. Operating frequencies are specified below.

This campaign is being conducted in support of research by The MITRE Corporation. The primary objective is to transmit newly developed, complex waveforms to assess their propagation characteristics over long distances. All information is subject to change based on real-time ionospheric or other conditions.

There are no specific data collection requests from funded investigators, but reception reports are welcome and may be submitted online via our web form at:

<https://haarp.gi.alaska.edu/form/reception-reports>. Please note that responses to reception reports may take some time, as we often receive a very high volume of reports.

Date (UTC)	Jul. 23	Jul. 24
Time (UTC)	1900-2100, 2300-0100	1700-1900, 2100-2300
Frequencies (MHz)	6.9, 9.6	6.9, 9.6
Notes	Transmissions directed towards the south-southeast.	Transmissions directed towards the south-southeast.

For updates on ionospheric conditions in Gakona, please consult ionograms from the HAARP Diagnostic Suite: <https://haarp.gi.alaska.edu/diagnostic-suite>

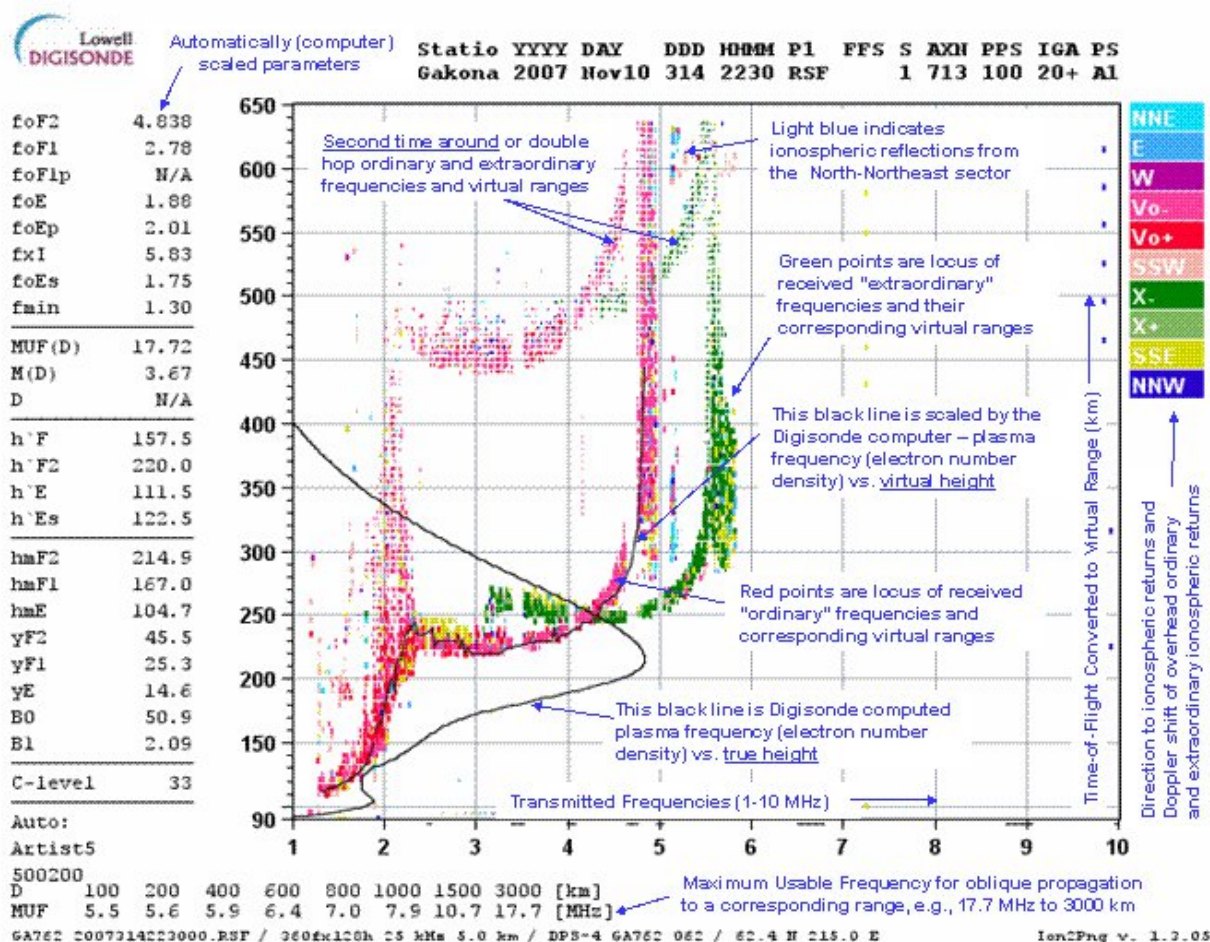
Additional Resources for Reading Ionograms

Understanding HF Propagation and Reading Ionograms from Bootstrap Workbench:

<https://www.youtube.com/watch?v=oTFKNC03CI8>

Reading Your Ionogram-Keeping It Simple from John (VE6EY):

<https://play.fallows.ca/wp/radio/shortwave-radio/reading-your-ionogram-keeping-it-simple/>



The image above is an annotated ionogram from HAARP that describes features that may be of interest. Note that f_oF_2 is calculated at the top left.

f_oF_2 is the critical frequency of the F2 layer of the Earth's ionosphere. This is the frequency at which radio signals stop refracting off the ionosphere and begin passing through to outer space. For certain HAARP experiments that deal with interactions in the ionosphere, transmission frequencies below f_oF_2 are desirable, while for other experiments (such as those involving high-altitude satellites), staying above f_oF_2 is required.