



IONOSPHERIC HEATERS



SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE

By Jim Lee of ClimateViewer.com and WeatherModificationHistory.com

November 14, 2018

What is an Ionospheric Heater?

“Powerful high frequency (HF) transmitter (2 to 10 MHz) that induces controlled temporary **modification to the electron temperature** at desired altitude”



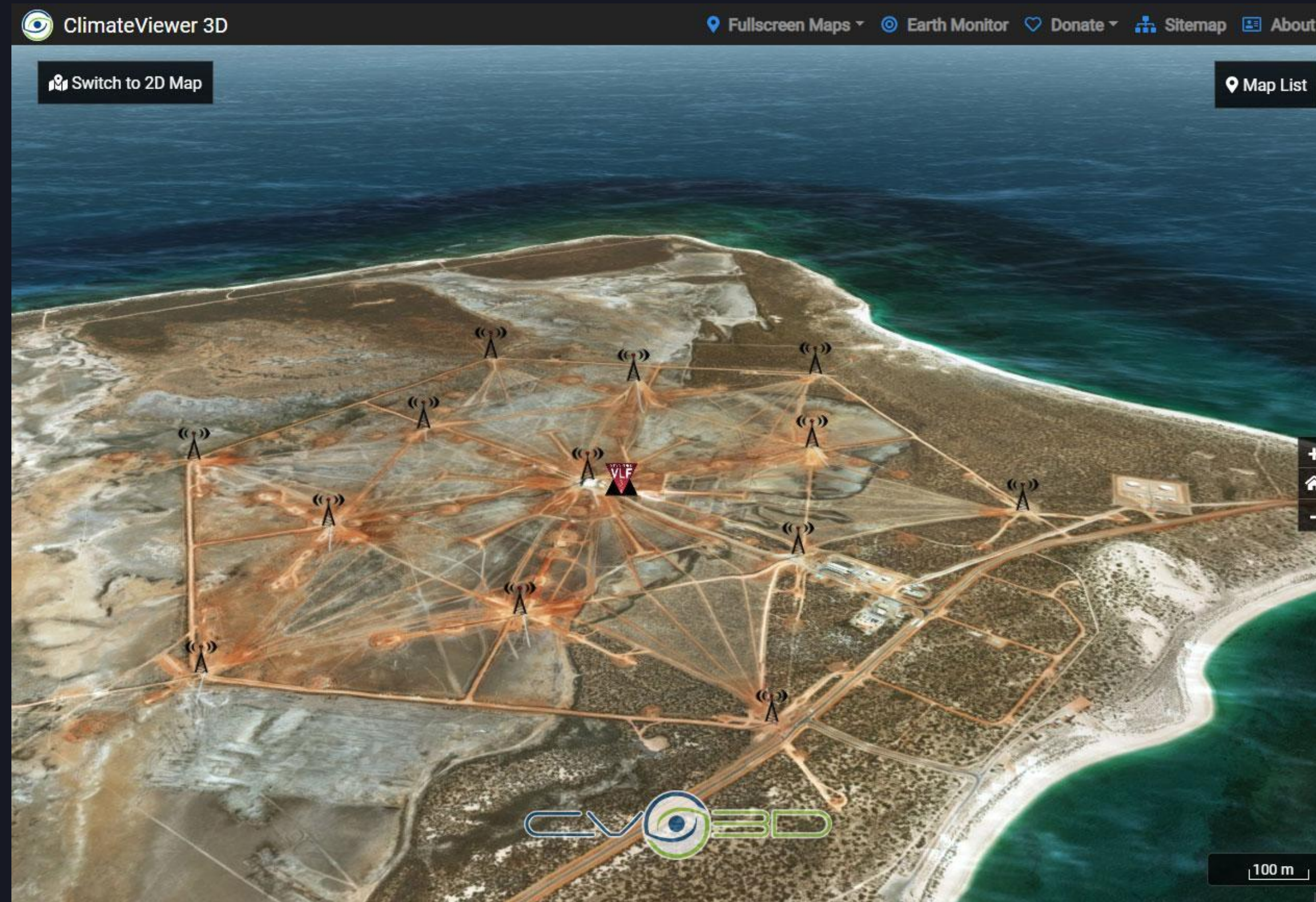
IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



What is an Ionospheric Heater?

Harold E. Holt Naval Station - North West Cape, Exmouth, Australia - Frequency: 19.8 kHz at 2,000,000 Watts
DIRECTLY TRANSMITS VERY LOW FREQUENCY (VLF) - IS NOT AN IONOSPHERIC HEATER



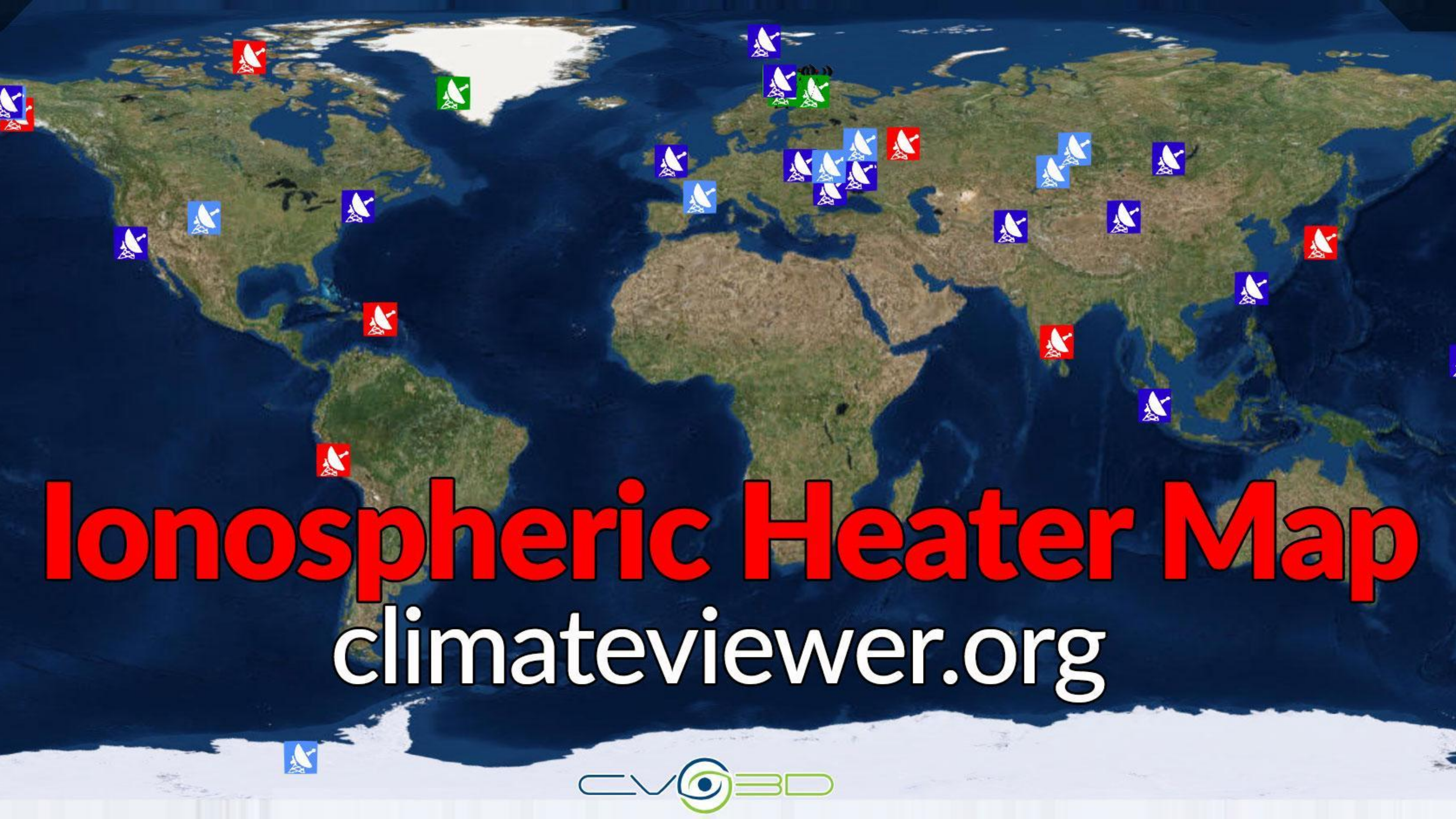
High Frequency Active Auroral Research Program (HAARP)- Frequency: 2-10 MHz at 3,600,000 Watts
USES IONOSPHERE TO CREATE EXTREMELY LOW FREQUENCY (ELF) - IS AN IONOSPHERIC HEATER



IONOSPHERIC HEATERS

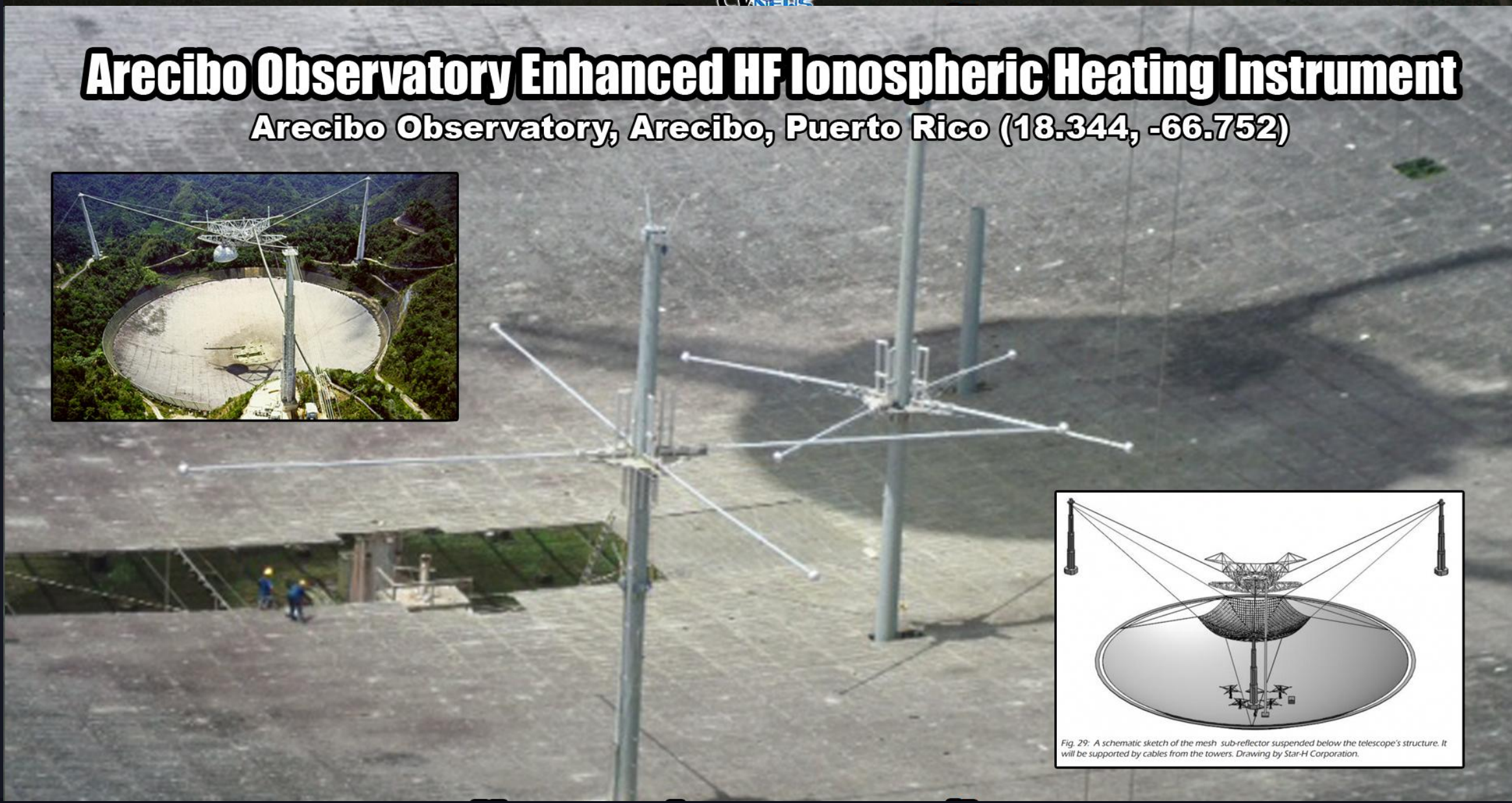
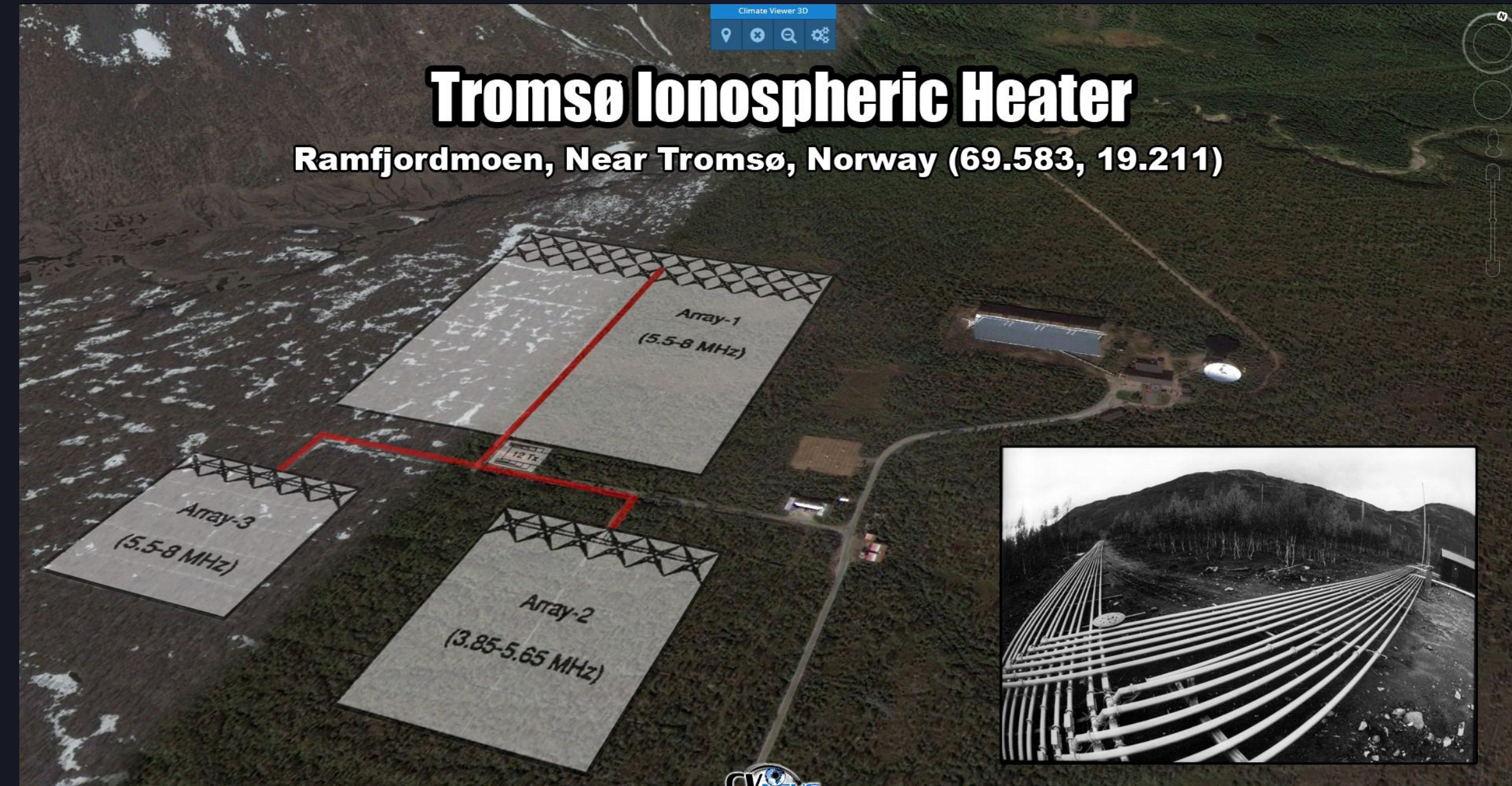
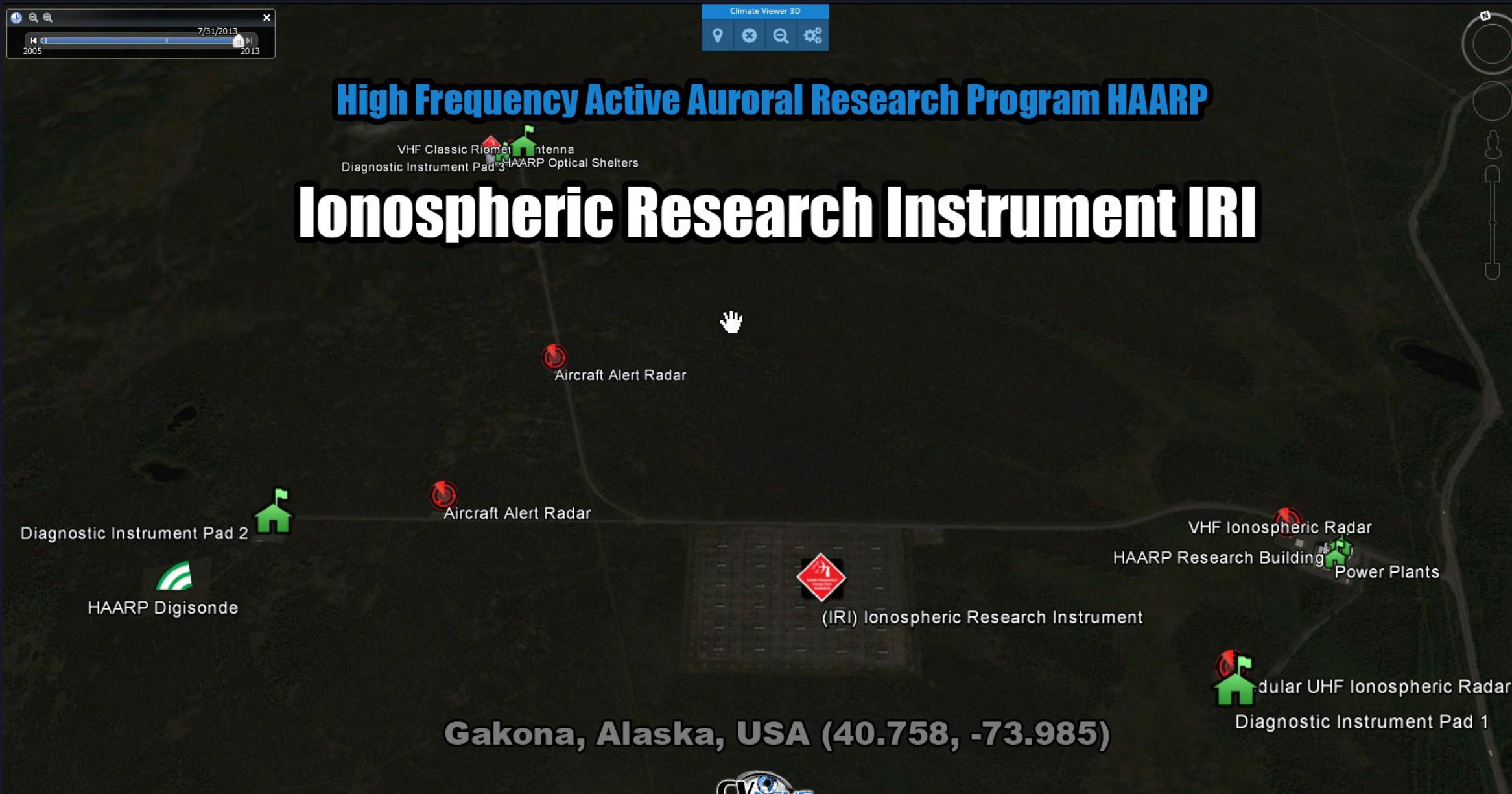
SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE

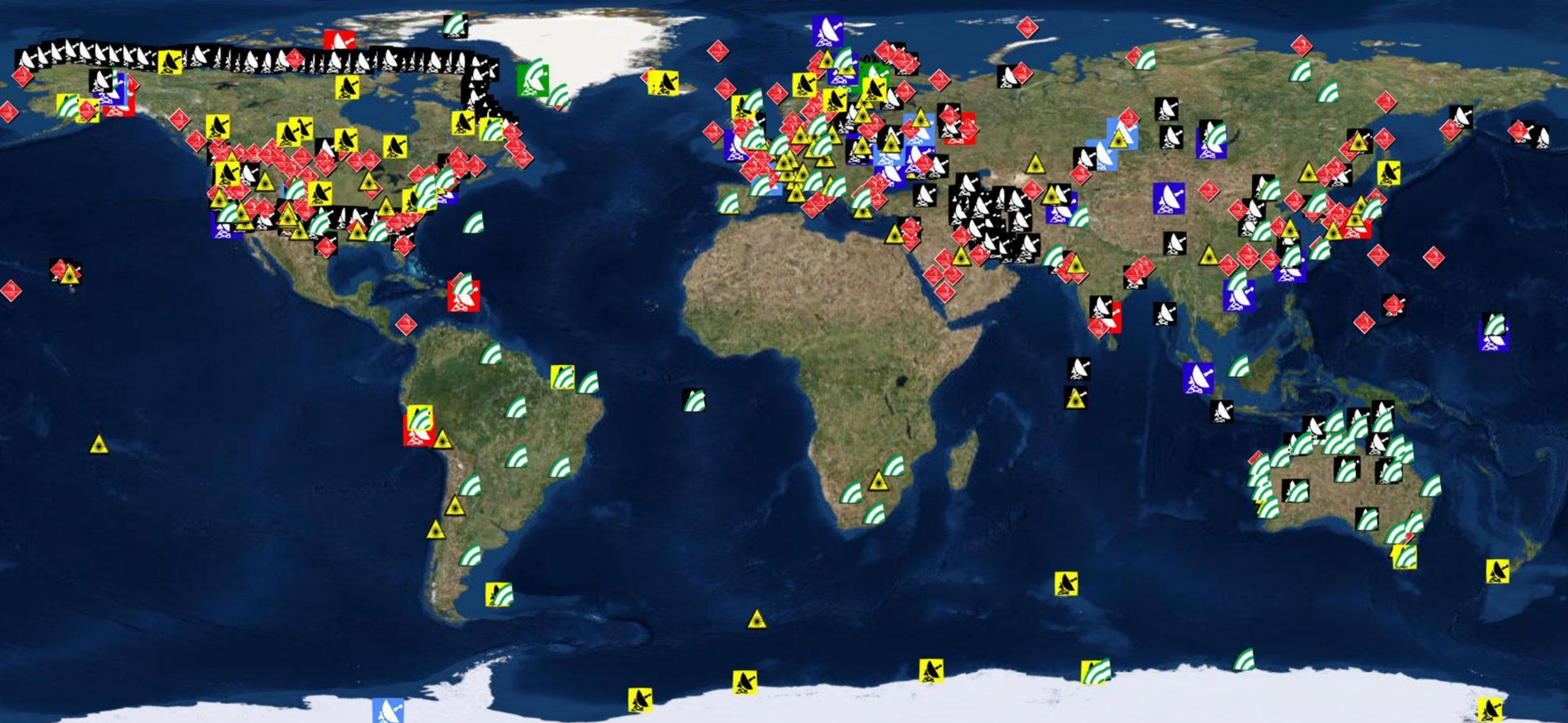




Ionospheric Heater Map

climateviewer.org






CLIMATEVIEWER 3D

MAP AVAILABLE AT **CLIMATEVIEWER.ORG**

-  Ionospheric Heater
-  EISCAT Incoherent Scatter Radars
-  SuperDARN
-  Other Incoherent Scatter Radars



 Historic Ionospheric Heaters

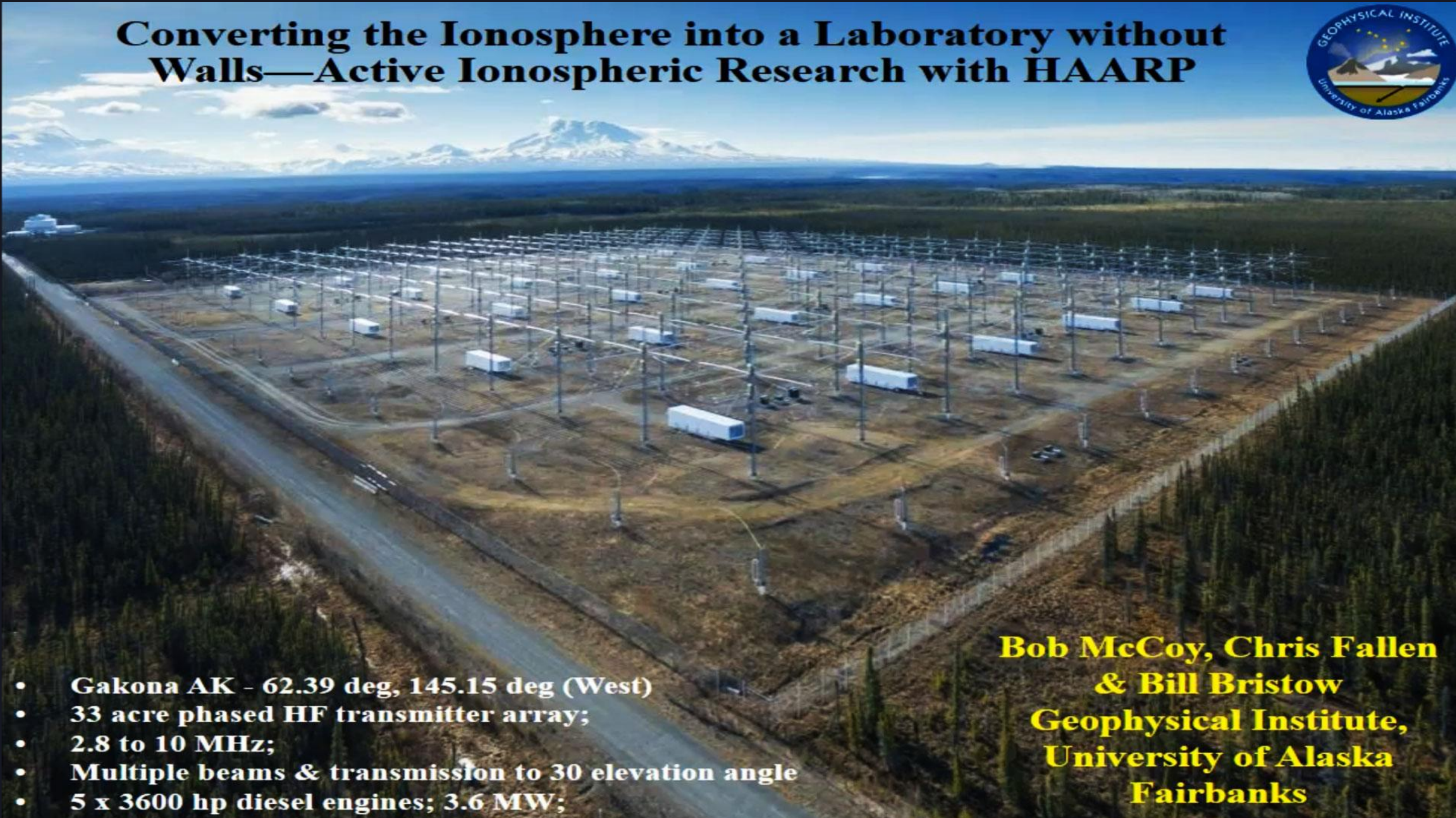
-  Missile Defense Radars
-  Ionosondes
-  Lasers & Directed Energy
-  ELF & VLF Transmitters

Why Heat the Ionosphere?

To use the sky as a
“Laboratory without Walls”

Watch video:


[Converting the Ionosphere
into a Laboratory without
Walls - Active Ionospheric
Research with HAARP](#)



Converting the Ionosphere into a Laboratory without Walls—Active Ionospheric Research with HAARP

Bob McCoy, Chris Fallen & Bill Bristow
Geophysical Institute,
University of Alaska
Fairbanks

- Gakona AK - 62.39 deg, 145.15 deg (West)
- 33 acre phased HF transmitter array;
- 2.8 to 10 MHz;
- Multiple beams & transmission to 30 elevation angle
- 5 x 3600 hp diesel engines; 3.6 MW;



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Why Heat the Ionosphere?

- Space Weather Control
 - Terrestrial Weather Modification
 - Climate Control (affect global temperature)
 - Space Warfare (Anti-Satellite and ICBMs)
- Radiation Belt Remediation & Artificial Aurora
- Create Extremely & Ultra Low Frequency (ELF and ULF) Waves
 - Signal the Apocalypse: Talking to Submarines
 - Artificial Gravity Waves & Travelling Ionospheric Disturbances
 - Mind Control (EMF Health Effects)
- Create Artificial Ionospheric Mirrors (reflect radio signals)
 - Laser Developed Atmospheric Lens
- Probe Underground Structures
- Create Artificial Earthquakes?



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control

DEFINITION: Scientific experiments to control conditions in the region of space close to the earth, especially the presence of electromagnetic radiation and charged particles emitted by the sun, that can affect human activity and technology



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



“Control of Space Means Control of the World”

“From space, the masters of infinity would have the power to **control the earth’s weather**, to cause drought and flood, to change the tides and raise the levels of the sea, to divert the gulf stream and change temperate climates to frigid.”

VP Lyndon B. Johnson

WVH
WEATHERMODIFICATIONHISTORY.COM



CLIMATEVIEWER.COM

Space Weather Control (History)

Upper Atmospheric Nuclear Explosions

- **Operation Argus (USA)**

August 27 - September 6, 1958

- **Operation Hardtack (USA)**

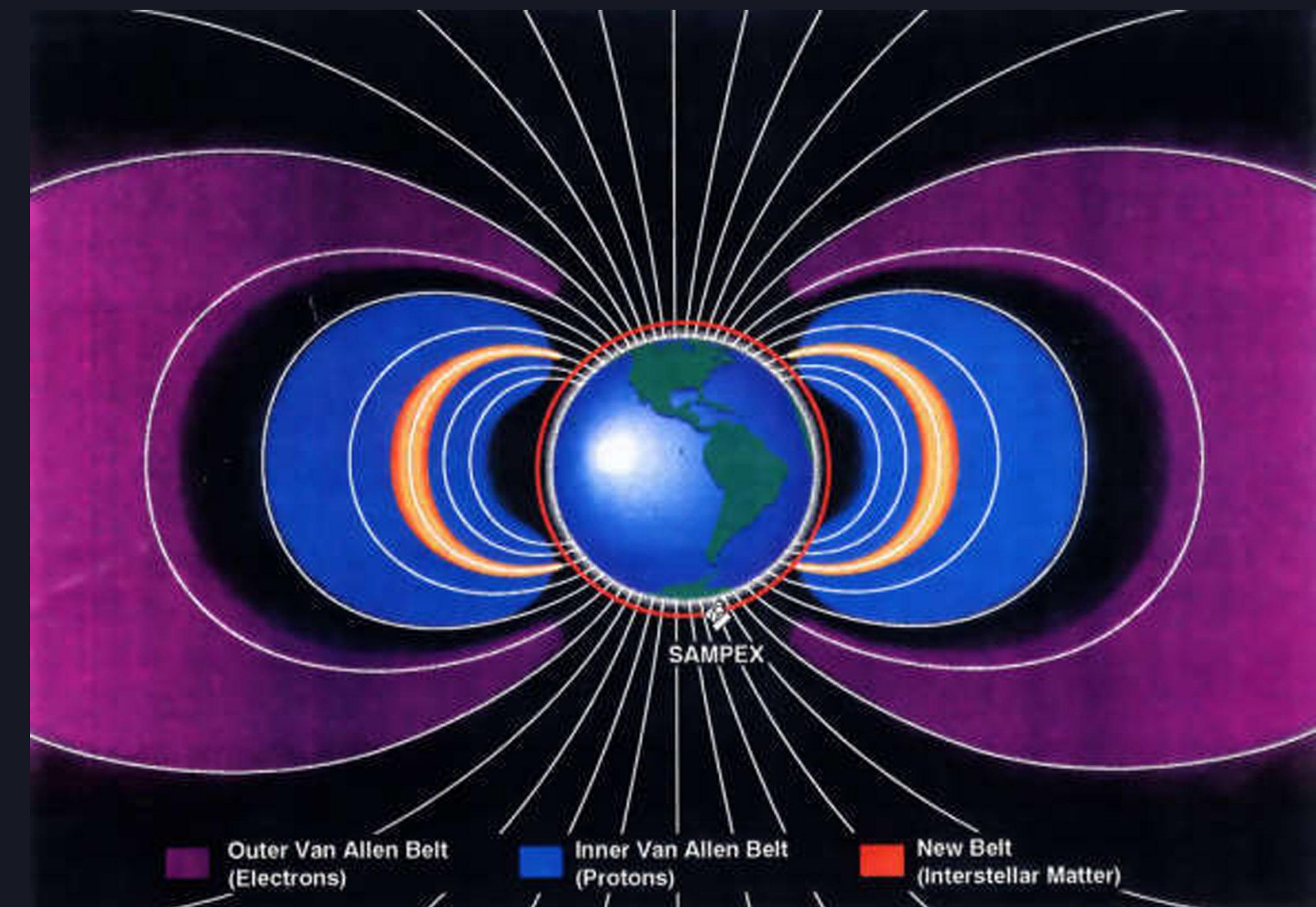
August 1-12, 1958

- **Starfish Prime (USA)**

July 9, 1962

- **Operation K (Russia)**

October 22 - November 1, 1962



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



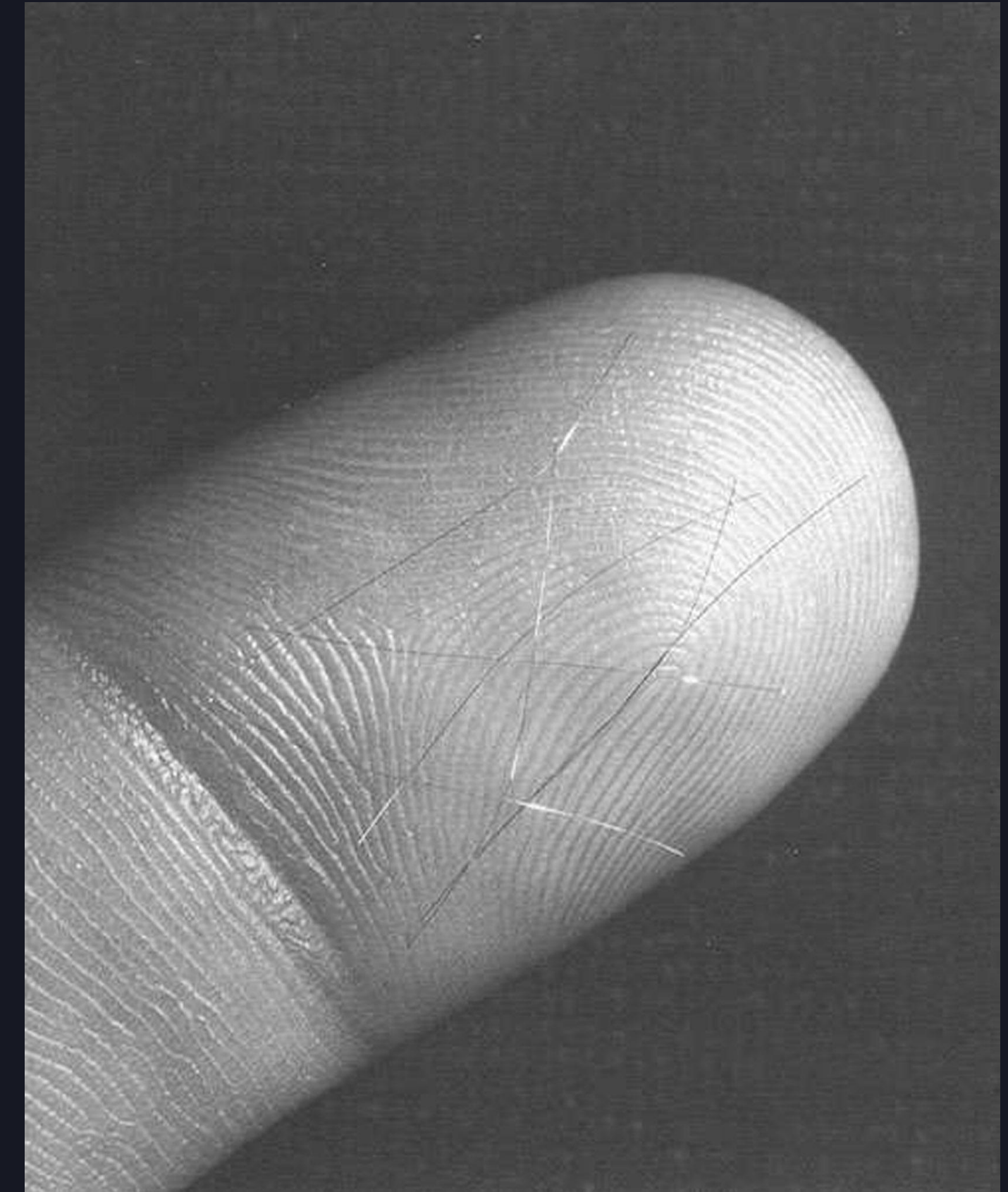
Space Weather Control (History)

Project West Ford (Needles) 1961-1963

480,000,000 copper dipole antennas launched into orbit.

The West Ford Needles project was an experiment to allow long distance communications by bouncing radio waves off of a band small wires (passive dipoles) cut to a specific length. In an attempt to lay a radio-reflective ring around the world, small metal dipole needles were allowed to sublimate out of a matrix.

Two experiments were conducted, one in 1961 and another in 1963. The 1961 experiment was not successful when the needles failed to sufficiently disperse. The 1963 experiment was successful. The nature of the West Ford-Drag payload is not clear.



IONOSPHERIC HEATERS

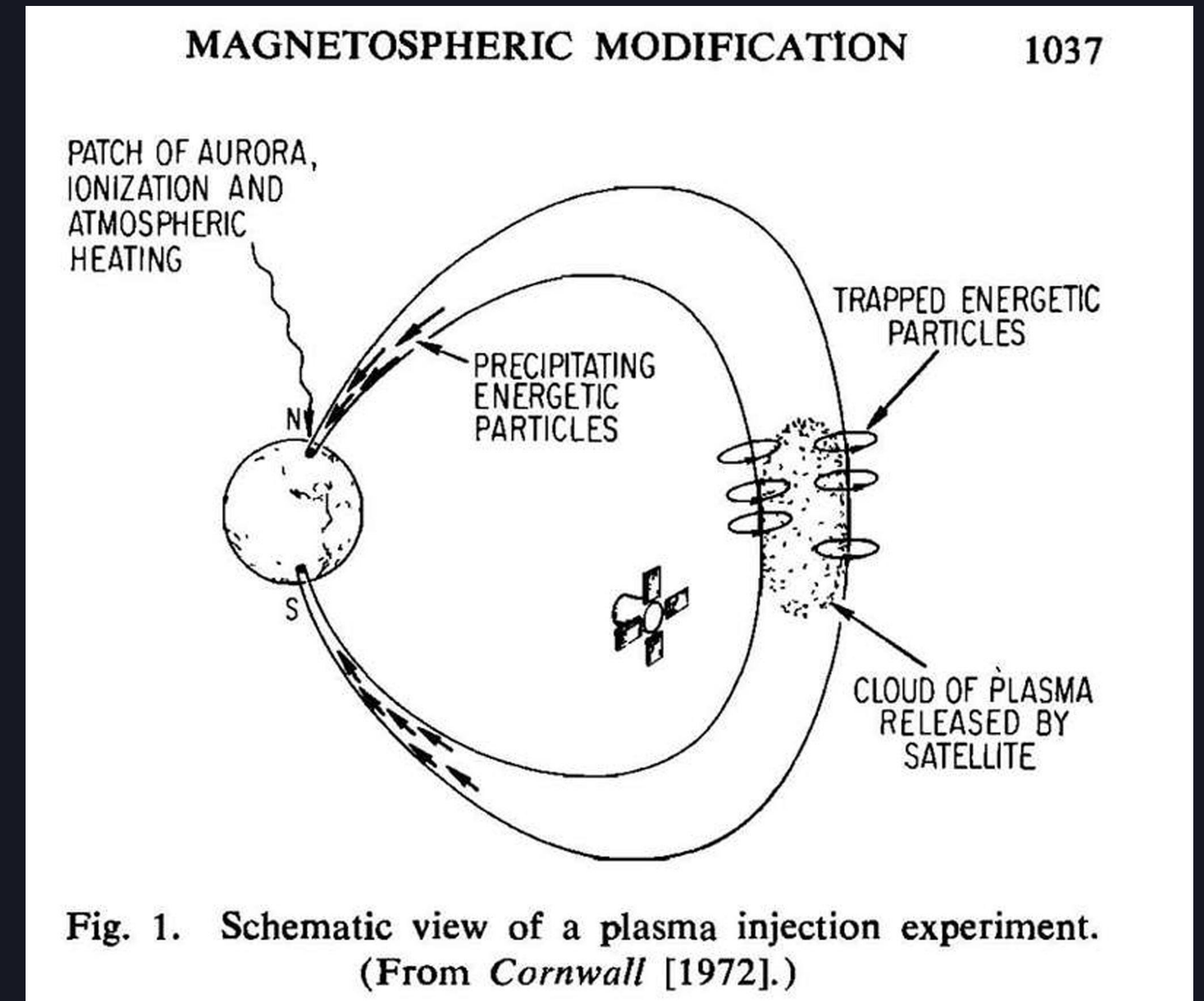
SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control (History)

Seeding Plasma with Sounding Rockets and Satellites

Create an **artificial ion cloud** in interplanetary space for studying the state of the interplanetary medium ... sounding rocket experiments of May 1963



IONOSPHERIC HEATERS

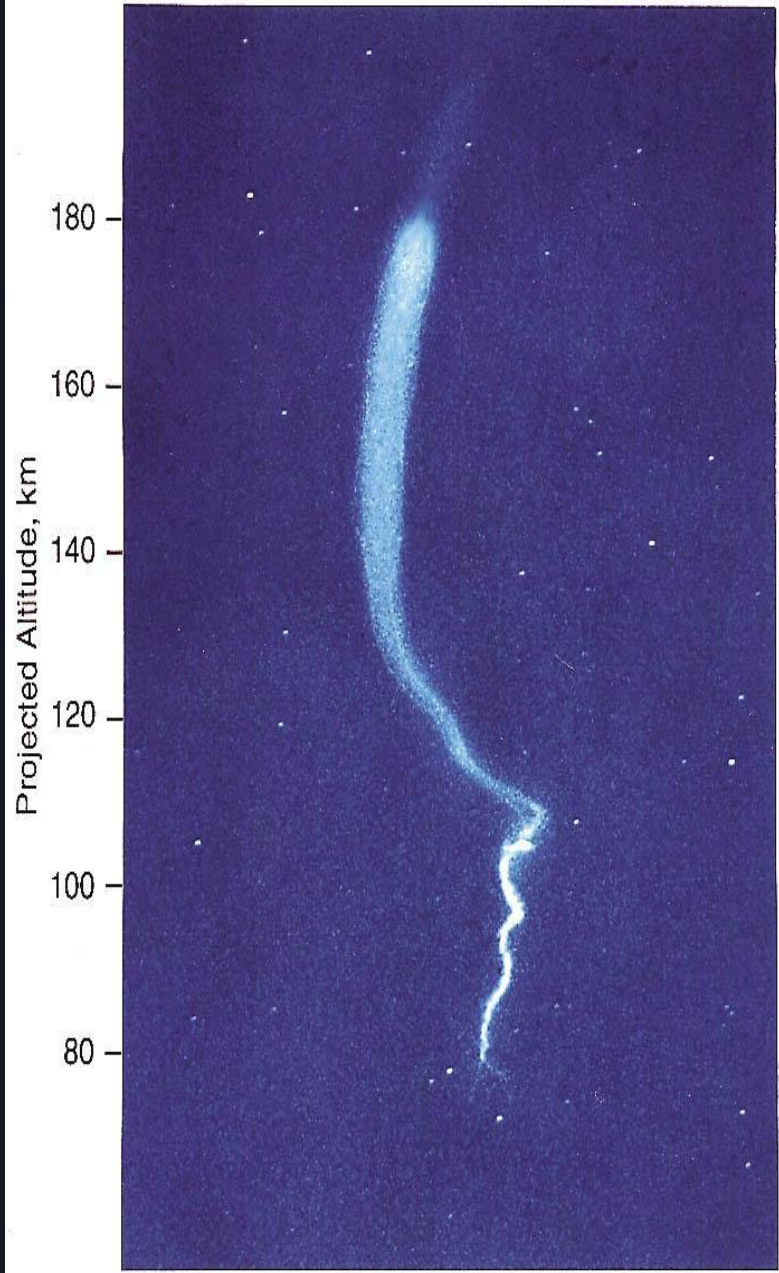
SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control (History)

Seeding Plasma with Sounding Rockets and Satellites

Poker Flat, Alaska
28 February 1978



Luminous vapor trail of tri-methyl aluminum (TMA) reveals neutral winds, shears, gravity waves, and instabilities in the high-latitude, upper atmosphere.



Image of a daytime lithium trail near 68 miles/110 kilometers altitude from a sounding rocket launched from Wallops Island, Virginia, in July 2013.



The cloud in the upper left hand part of the image is due to a barium release. The purple-red part is the ionized component which has become elongated along the Earth's magnetic field lines. The purple-blue cloud that surrounds the red ionized barium is a combination of the neutral barium and strontium. The blue and white trail in the lower portion of the image is from a TMA vapor trail that reveals the neutral wind trails as a function of altitude.

Charged Aerosol Release Experiment Modified/Enhanced CARE Concept

Objectives: Examine the effect of artificially-created, charged-particulate layers on the penetration of UHF, L-Band and S-Band radars. Design and build a rocket payload with a chemical release and instruments to solve the mystery of radar echoes from dusty plasmas

Description: A series of rocket experiments will be conducted to test the theories for radar scatter from charged dust.

- Rocket Experiment**
 - Chemical Release (280 km Altitude, 111 kg)
 - Instrumented Payload
 - Radio Beacon (CARE I)
 - Ground Radars for Backscatter Observations
 - Launch Sites
 - Wallops Island, Virginia (CARE I 2000)
 - Andoya, Norway or Poker Flat, Alaska (CARE II)
 - Kwajalein, Marshall Islands (CARE II Alternate)
- Supporting Theory**
 - Chemical Release: Plume Model
 - Particle Dispersal: Monte Carlo Simulations
 - Plasma Turbulence: Electrostatic PIC Code
 - Radar Scatter: Electromagnetic Theory

Radar and In Situ Diagnostics of Artificial Dusty Plasma Cloud

New Artificial Dust Layer Concept

Objectives of CARE Program

- Artificial Noctilucent Cloud Formation
 - Physics of Enhanced Radar Scatter
 - Radar, Lidar and Optical Diagnostics
 - Satellite Measurements (AIM)
- Release from Nihka Solid Rocket Motor
 - Large Concentration of Dust
 - Supersonic Injection Velocity
- Experiment Enhancements
 - Ground and Ship Ionosonde Diagnostics
 - Direct Injection by Chemical Release Module

Particulate Release Observations During the SCIFER Mission on 25 January 1995

- 25 January 1995 Four Stage Black Brandt XII Launch from Andoya Norway
- Nihka Motor Fired from 98.7 to 156.3 km Altitude
- Dust Cloud Observed for 66 Minutes
- 5.6 GHz Radar Echoes Attenuated by 7 dB



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



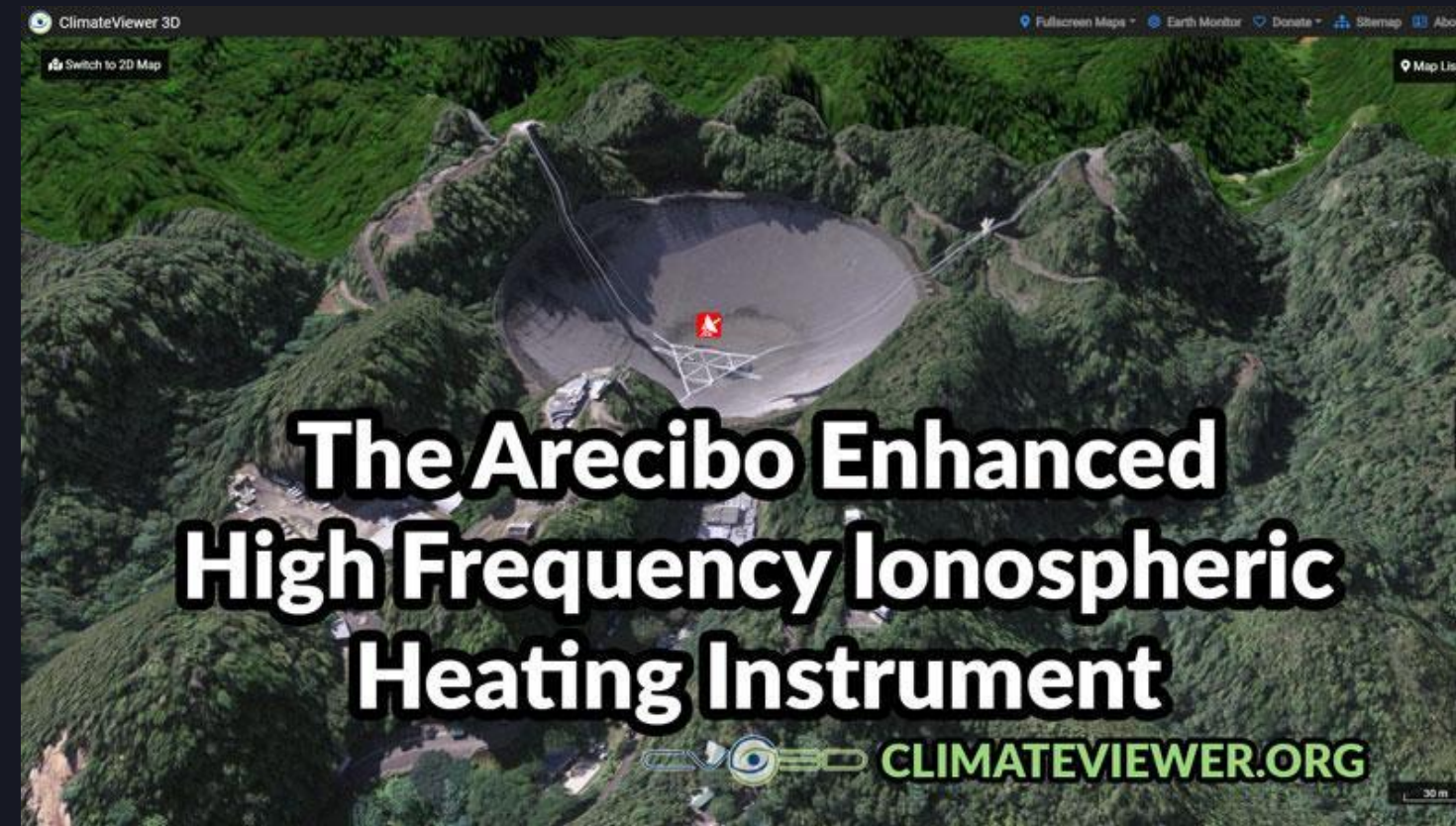
Space Weather Control (History)

Chemical Releases and Ionospheric Heating at Arecibo

Combined Release and Radiation Effects Satellite (CRRES) dumps chemicals in space while a ground-based microwave antenna in Arecibo, Puerto Rico heats them to modify the ionosphere. This heater was destroyed by a hurricane then rebuilt as the Enhanced HF Ionospheric Heating Instrument.

Chemicals Released by the CRRES:

- Barium
- Strontium
- Lithium
- Calcium
- Sulfur Hexafluoride (SF6)



PL-TR-94-2119

MULTIPLE INSTRUMENT STUDIES OF CHEMICAL RELEASES AND HEATING AT ARECIBO

Robert C. Livingston
Craig J. Heinselman
James F. Vickrey
Roland T. Tsunoda



SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025

March 1994

Final Report
July 1990 - September 1993



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PHILLIPS LABORATORY
Directorate of Geophysics
AIR FORCE MATERIEL COMMAND
HANSCOM FORCE BASE, MASS 01731-3010



IONOSPHERIC HEATERS

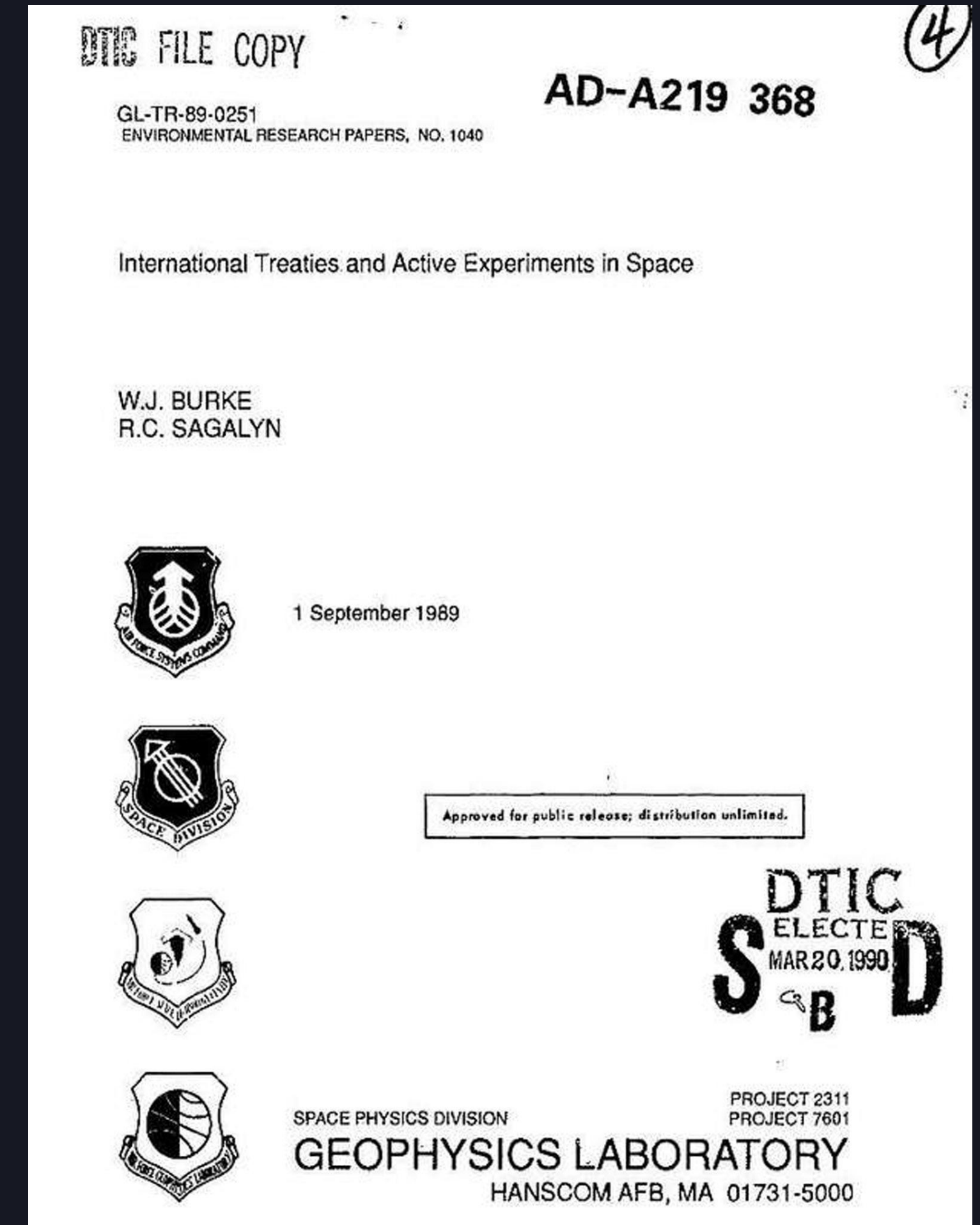
SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control (History)

International Treaties and Active Experiments in Space

Satellite explorations of the near earth environment have vastly increased our understanding of space plasmas and their interactions with systems. A logical next step involves active experiments in which small quantities of matter and energy are injected into space environments. These experiments seek to verify tentative, scientific understanding and to identify ways to control environmental effects on systems. Serious questions may be raised regarding the legitimacy of conducting active experiments in space under United States military auspices. Here we review the treaty obligations regarding space environment modification to which the United States government has committed itself. Experiments involving the detonation of nuclear devices or interference with foreign space assets, especially national technical means to verification, are explicitly forbidden. In planned these experiments [great care must be exerted so that they produce no widespread, long-lasting or severe effects on the environment](#). We also review active experiments programs conducted by U.S. civilian and foreign space agencies. Finally, the treaty restrictions are applied to the case of a hypothetical experiment to establish the feasibility of controlling the flux of energetic particles trapped in the earth's radiation belts. [An ability to reduce trapped radiation would increase orbit selection options for future space-based surveillance systems](#). Keywords: Radiation belts; Wave-particle interactions; Environment modification.



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control (History)

Department of Defense Creates HAARP 1989-1990

Dec. 13, 1989: US Navy-Air Force meeting at Office of Naval Research to discuss mutual interests in carrying out a DoD program in the area of ionospheric modification. The need for a unique heating facility (HAARP) to conduct critical experiments relating to the potential DoD applications was identified. A Navy-Air Force-DARPA program was proposed.

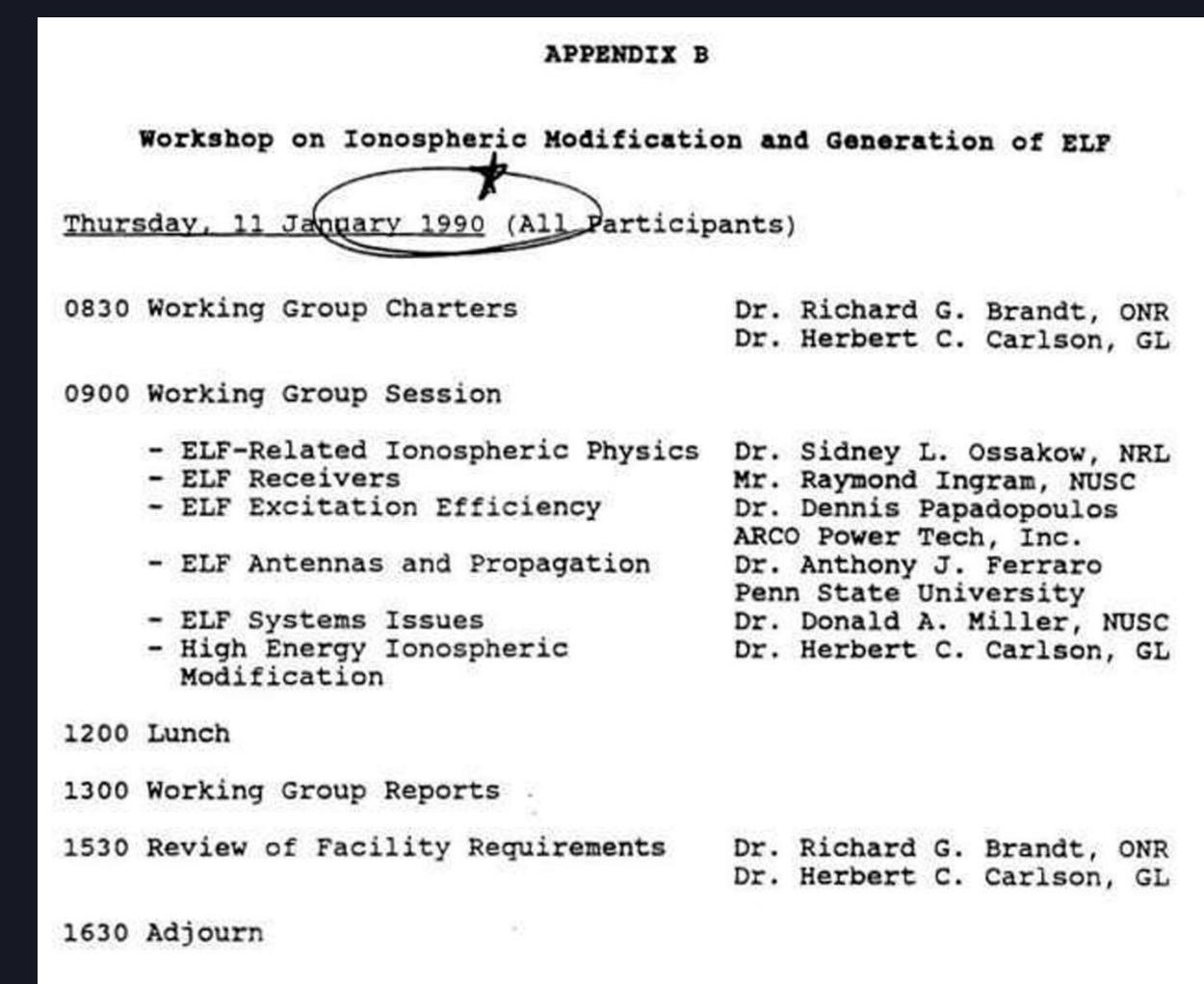
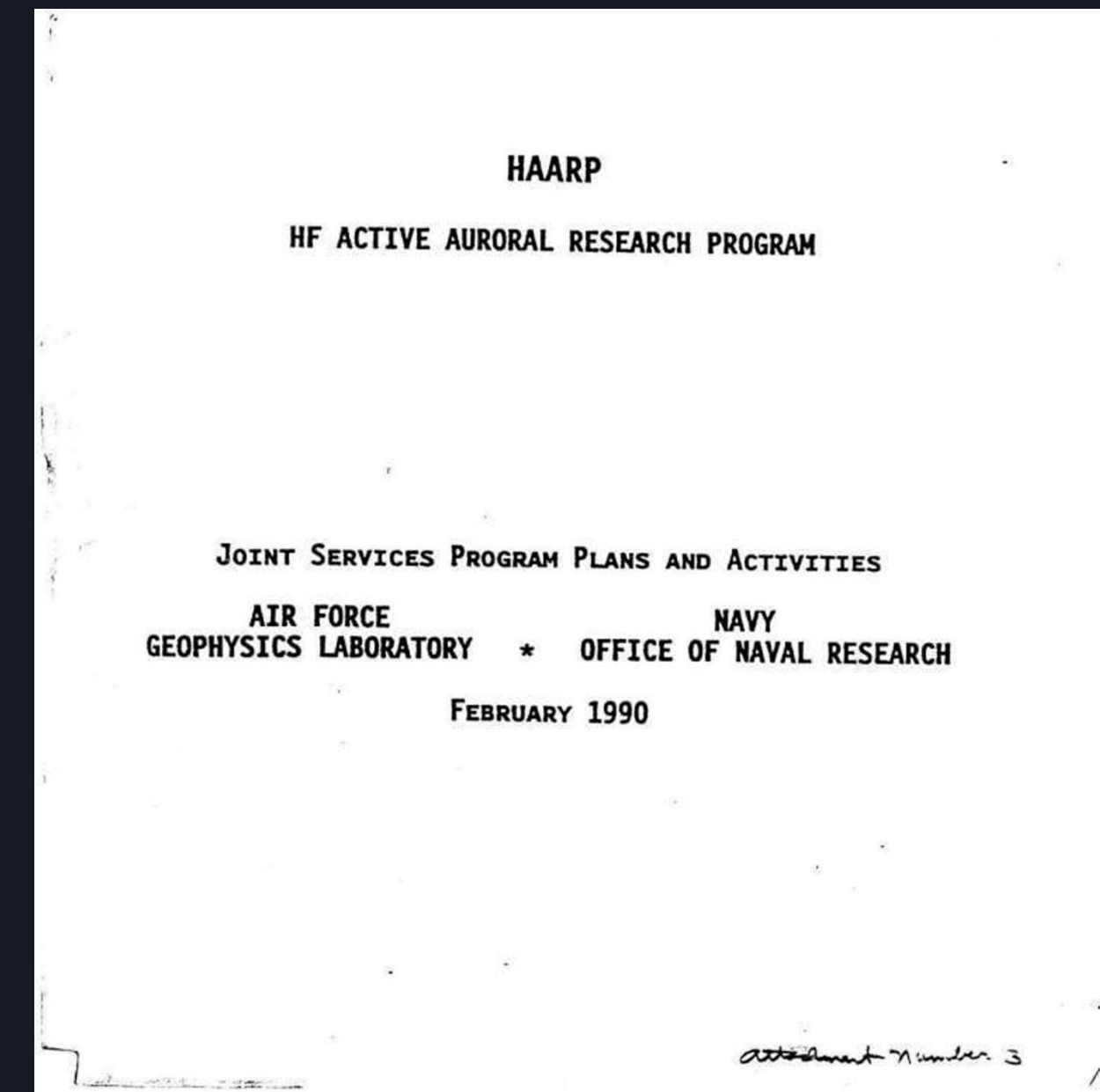
Dec. 13, 1989: Navy-Air Force personnel present their proposed DoD program to DARPA and DDRE representatives at a meeting at DARPA.

Jan. 9-11, 1990: Ionospheric Modification/ELF Workshop held at NUSC, attended by personnel from government agencies, universities, and the private sector. The workshop provided an opportunity for broad-based inputs concerning research needs in ionospheric modification. In addition, potential systems applications requiring further research were defined, and the characteristics of a new, unique, HF heating facility were discussed and identified.

Jan. 25, 1990: Navy-Air Force meeting at the Geophysics Laboratory (Hanscom AFB, MA) to develop a plan to achieve DoD HAARP objectives.

Feb. 7, 1990: Written description of HAARP plans and objectives circulated to Navy, Air Force, and DARPA personnel for coordination.

Feb. 12, 1990: Meeting with DDR&E at ONR to present HAARP plan, and to discuss implementation approach.



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE

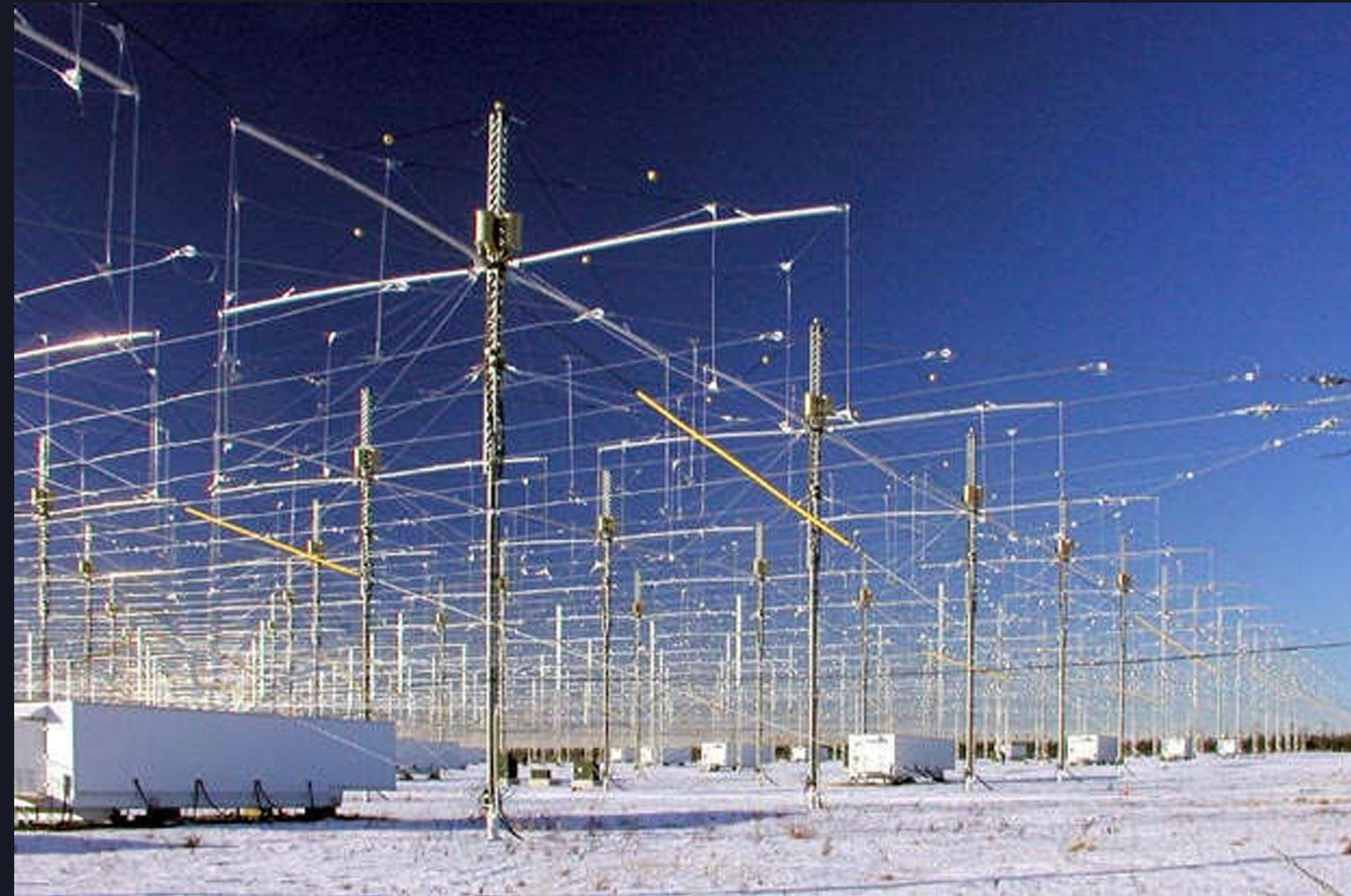


Space Weather Control (History)

HAARP operational 1994, running at full power 2006

The HAARP facility becomes operational, with a radiated power of 960 kW. 1994

HAARP IRI is completed, with 180 towers, 72' tall, 80' apart, each with two pairs of crossed dipole antennas (2.8 to 8.3 MHz)(7 to 10 MHz), and a radiated power of 3600 kW (3.6 Megawatts).



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



THERMOSPHERE
MESOSPHERE
STRATOSPHERE
TROPOSPHERE

THERMOSPHERE
MESOSPHERE
STRATOSPHERE
TROPOSPHERE

ARTIFICIAL MIRROR/LENS

ARTIFICIAL AURORA

WEATHERMODIFICATIONHISTORY.COM

93 Miles
150 Kilometers

53 Miles
85 Kilometers

31 Miles
50 Kilometers

39k Feet
12 Kilometers

1

2

3

9

8

5

6

4

7

10

AIR GLOW

NOCTILUCENT CLOUD

NACREOUS CLOUD

OZONE LAYER

1. **Ionospheric Heater**
MICROWAVE, NOCTILUCENT, PLASMA CLOUDS, ELF/VLF
2. **Sounding-Rockets**
CHEMICAL RELEASE, NACREOUS, NOCTILUCENT CLOUDS
3. **Satellite**
CHEMICAL RELEASE, DEW, IONOSPHERIC HEATER, ELF/VLF GENERATION
4. **Lasers**
RAIN CCN, IONIZATION, CHANNEL LIGHTNING
5. **Cloud Seeding**
CHEMICAL RELEASE, RAINFALL, HAIL, CLOUD CLEARING
6. **Cloud Ionizers**
ELECTRIC RAINMAKING WITH IONS
7. **Stratospheric Aerosol Injection**
GEOENGINEERING SOLAR RADIATION MANAGEMENT (SRM)
CHEMICALS CREATE SUNSHADE: SULFUR, ALUMINUM, TITANIUM, DIAMOND DUST, CALCIUM, BISMUTH TRI-IODIDE.
8. **Ship Tracks**
MARINE CLOUD BRIGHTENING (MCB), STRATOCUMULUS
9. **Contrail-Induced Cirrus**
CIRRUS CLOUD CREATION, TRAPS HEAT, MELTS POLES
10. **Water Vapor Pollution**
CLOUD CREATION VIA: SMOKESTACKS, COOLING TOWERS, WSAC, TMS-65, J2X ROCKET, JET ENGINES

Red Numbers: Considered Inadvertent, Accidental, or Pollution... unless intentional. Objects not to scale. Not included: steering atmospheric rivers

Space Weather Control

Terrestrial Weather Modification

In the late 70s, experiments were performed from Ukraine using 3 x 1000 kW transmitters in parallel. The antenna consisted of 13 vertical towers in the shape of a parabola (as viewed from an airplane) with various folded dipoles strung between all these towers. It also had a very narrow bandwidth (approx. 3 MHz), and a very narrow beamwidth (approx. 5-10 degrees). As a result, the gain they obtained from this antenna was a staggering 38 dB

But instead of creating a solid area of reflection, they discovered they were actually burning a hole in the ionosphere and the signal was being shot off into space. They also noticed that the area of the ionospheric hole had an effect on approaching weather fronts. The weather fronts were being deflected around the ionospheric heated area, inadvertent weather modification

[Soviet Superpower Tests Burned the Ionosphere](#)



ALL THE FREQUENCIES YOU NEED!

Monitoring Times

Global Forum February 2001

Shortwave Broadcasting
Glenn Hauser
P.O. Box 1684-MT, Enid, OK 73702
wghauser@yahoo.com
www.angelfire.com/ok/worldofradio

Soviet Superpower Tests Burned the Ionosphere

In the late 70s, experiments were performed from Ukraine using 3 x 1000 kW transmitters in parallel. The antenna consisted of 13 vertical towers in the shape of a parabola (as viewed from an airplane) with various folded dipoles strung between all these towers. It also had a very narrow bandwidth (approx. 3 MHz), and a very narrow beamwidth (approx. 5-10 degrees). As a result, the gain they obtained from this antenna was a staggering 38 dB!

The reference signal they used it against was a 1000 kW transmitter with a 20 dB curtain antenna. The test signal was directed to the Washington / New York area. What happened was as follows. It started at 1000 kW; they increased power and monitored signal strength received in Washington. As the test transmitter power approached 2000 kW, they found that the received signal strength started to decrease. At 3000 kW the received signal was almost gone, but why?

Radiosondes and satellites were then dispatched to analyze the signal. What they found was surprising. At 3000 kW and 38 dB of antenna gain, the signal was of such power, that it was heating up a spot in the ionosphere. But instead of creating a solid area of reflection, they discovered they were actually burning a hole in the ionosphere and the signal was being shot off into space. They also noticed that the area of the ionospheric hole had an effect on approaching weather fronts. The weather fronts were being deflected around the ionospheric heated area, inadvertent weather modification.

So they reduced the power, received signal strength improved, but not much over the reference signal. They experienced lots of fading, especially when the ionosphere was unstable, that the solar winds would push and pull at these heated-up areas of the ionosphere and move it around. They did, however, notice that as the ionospheric hole decreased in size, they were also able to transmit a second signal beamed to the same spot at much higher than the MUF and HPF; however, the received signal was very unstable, because of the lack of symmetry and alignment due to the number of hops. This method had been used before, but just for one hop.

The parabolic antenna was modified to a wider beamwidth (approx. 30 degrees) and the frequency range was expanded to 5.5-22.0 MHz. The result of this was a drop in gain to 29 dB, which is still fantastic.

The high power transmitter program was canceled, and soon after many of the engineers were laid off, but 20-30 were provided safe passage out of the Ukrainian SSR and ended up in Alaska working on the US HAARP project ((c) Rick Slobodian, Alberta, after visiting Ukraine, via BC-DX)

They tried to serve North America with 3000 kW and an antenna with a gain of 38 dB, resulting in a ERP of almost 19 million kW (Kai Ludwig, Germany)

The original aim of these tests was to try to "optimize" jamming on SW (Bernad Trutenau, Lithuania, BC-DX)

Also, the widely observed USSR - Woodpecker signals originated from Ukraine territory near Poltava, as described in German magazines in the 70s. The row/fence of the giant antenna tower installations (maybe 8x8 or 16x16 dipole arrays?) could easily be seen from aircraft and spacecraft (Wolfgang Büschel, BC-DX)



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



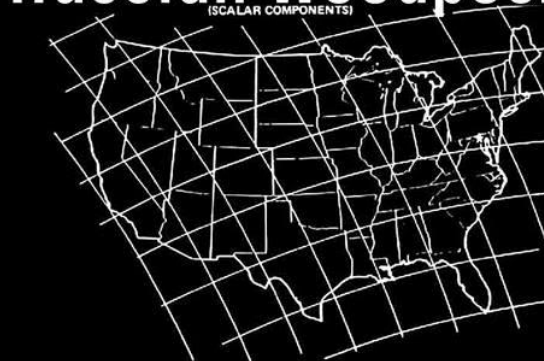
Space Weather Control Terrestrial Weather Modification The Russian Woodpecker (DUGA-3)



IONOSPHERIC HEATING

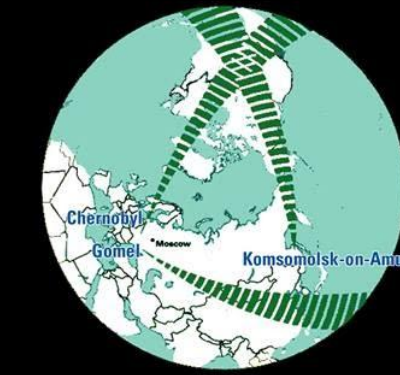
WEATHERMODIFICATIONHISTORY.COM

Russian woodpecker



over-the-horizon radar (OTH)

The Soviet Union began work on over-the-horizon (OTH) radar in the late 1950s, given the potential of this technology to surpass the range of conventional early warning radars. The focus was on backscatter radars that would provide warning of missile launches by detecting alterations in ionosphere propagation caused by the depletion of ions by missile exhaust plumes. These radars had to reliably detect group and mass launches of intercontinental ballistic missiles from the territory of the US. The radars are reportedly known as STEEL RADO or STEEL WORKS by the Western intelligence community. The Steel Yard OTH began operations in 1975-1976. One of the Steel Yard OTH was the Chernobyl-2 OTH station (C2). This radar was the biggest directional HF antennas in the world. The height of the bigger antenna was 150 m, the length appr. 500 m. The height of the smaller antenna was 90 m. Within the radius of less than 60 km from this station known as "Chernobyl-2"(C2) were found two other stations that seem in satellite photographs almost similar in appearance, namely "Lyubech-1"(d ≈58 km) and "Goncharovsk-1" in Ukraine (d ≈54 km). (source : The Woody Woodpecker Story by Väinö Lehtoranta).



Three Steel Yard OTH radar

By 1980 the Russians were reportedly operating three OTH transmitters including two OTH transmitters near Kiev (Chernobyl) and Minsk (Gornel ?), and a third transmitter in Siberia focused on their northern flank which became operational in 1979. By the mid-1990s at least the two radars located in Ukraine appeared to have been deactivated.

Komsomolsk-na-Amur
An over-the-horizon radar was built at Komsomolsk-na-Amur. Along with the facility at Gornel (southeast of Minsk) and Chernobyl (near Kiev), the other Steel Yard located at Komsomolsk-na-Amur provided complementary coverage of the United States.

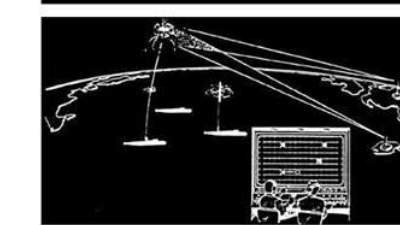
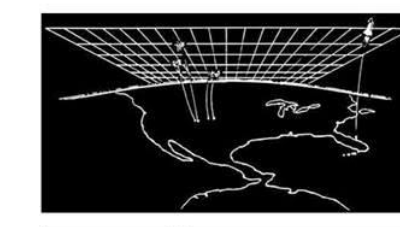
What is Woodpecker ?

The term Woodpecker refers to the high-power OTH radar which operated in Europe during the years 1976 - 1988. The signal from the Chernobyl-2 OTH station (C2) is pulse-modulated at a rate of several times a second (most sources state 10 pulses per second), sounding like a woodpecker. The radar was observed using three repetition rates: 10 Hz, 16 Hz and 20 Hz. The most common rate was 10 Hz, while the 16 Hz and 20 Hz modes were rather rare. The pulses transmitted by the woodpecker had a wide bandwidth, typically 40 kHz.

Also in the 2000s on the HF bands, over-the-horizon radars from other countries, using other pulse frequencies, have been audible. The 10-Hz Woodpecker was, and will be remembered as a unique phenomenon that generated more interference reports and speculations than any other radio emission.

When it first began operations, the transmitter interfered with several communications channels, including emergency frequencies for aircraft on transoceanic flights. Subsequently the operational practice was modified so that the radar skipped these critical frequencies as it moved across its operational spectrum. When the transmissions were first detected in the West, some suggested that the Soviets were developing a new radio system for communicating with strategic submarines. Others suggested that it was designed to detect and track low-flying aircraft or missiles. Far less plausible theories extended to suggestions the Soviets were trying to modify the weather, experimenting with radio waves to control human behavior, or developing a weapon to shoot down nuclear-tipped missiles.

(source : ABM AND SPACE DEFENSE A. Karpenko Neskvy Baston, No. 4, 1999, pp. 2-47 and The Woody Woodpecker Story by Väinö Lehtoranta)



Control the air of United States

Chernobyl-2, also known as "FAR" (Phased Grid of Antennas) or Duga-2 was the secret soviet army object, aimed to control the air of United States.

A weather modification project ?

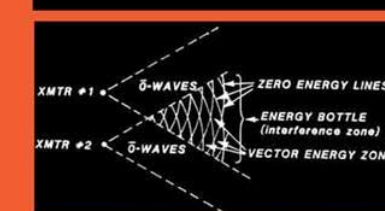
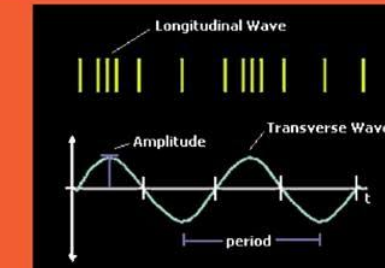
The Soviet weather modification project is referred to as the Woodpecker system. It involves the transmissions of extreme low frequency (ELF) waves at about 10 hertz using Tesla transmitters in Chernobyl, Gornel and Komsomolsk-na-Amur. These transmitters generate electromagnetic transmissions that produce an ELF scalar grid over the United States. This is done by transmitting these low frequency scalar waves in pairs so that they converge at a predetermined point on the earth's surface and cause a disruption of the atmosphere. This technology can be used to alter the course of the jet stream and set up long-term weather blocks.

Chernobyl and Woodpecker

The Chernobyl-2 OTH station (9.7 km away from the reactor) ultimately ended on 26 April 1986 at 01:23:40 when the Chernobyl Nuclear Power Plant Reactor 4 (U4) ran out of control and exploded, causing one of the history's worst ecocatastrophes that has been documented.

Some sources says the explosive eruption of a reactor at Chernobyl was almost certainly caused by an accidental catastrophic failure of a large TR Woodpecker transmitter about 30 kilometers away. (Tom Bearden, Lieutenant Colonel, U.S. Army (Retired), www.cheni.org)

Scalar weapon



Scalar waves are perpendicular (contrary to electromagnetic waves). By cross interference of scalar waves, it's possible to reveal their presence and "condensate" them for zero point energy (etheric energy) power production.

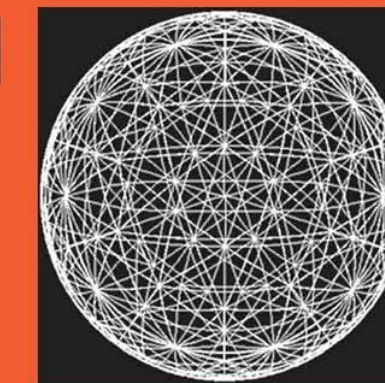
What is a scalar wave ?

Before the turn of the century, Nikola Tesla had discovered and was utilizing a new type of wave. Tesla repeatedly stated his waves were non-Hertzian, and his wireless transmissions did not fall off as the square of the distance.

"Any vector wave can be decomposed into two scalar waves. By implication, therefore, a normal transverse EM vector wave, e.g., must simply be two coupled scalar (Tesla) waves -- and these scalars independently would be longitudinal if uncoupled. An ordinary transverse EM vector wave is thus two pair-coupled Tesla scalar longitudinal waves" (The Tesla Howitzer by Tom Bearden).

"Scalar waves are produced when two electromagnetic waves of the same frequency are exactly out of phase (opposite to each other) and the amplitudes subtract and cancel or destroy each other. The result is not exactly an annihilation of magnetic fields but a transformation of energy back into a scalar wave. This scalar field has reverted back to a vacuum state of potentiality. Scalar waves can be created by wrapping electrical wires around a figure eight in the shape of a mobius coil. When an electric current flows through the wires in opposite directions, the opposing electromagnetic fields from the two wires cancel each other and create a scalar wave." (Bearden)

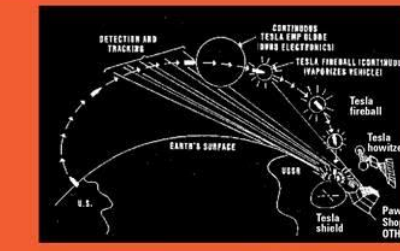
Earth Grid and ABM defense (hypothesis)



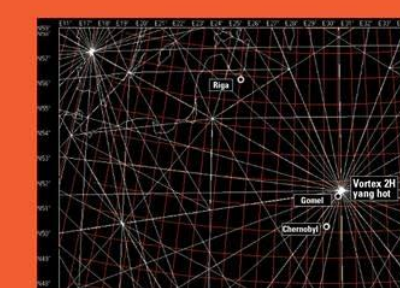
What is earth grid ?

Three Russian scientists, Nikolai Feodorovich Goncharov, Vyacheslav Moroz and Valery Mokarov, have recently discovered evidence of faint magnetic lines which appear to run around the planet making of it a dodecahedron superimposed on an icosahedron, as if the planet had once been a great crystal or was conditioned in its energetic nature by some crystalline core.

On meteorological and geological maps they found that all the global centers of maximal and minimal atmospheric pressure occurred at the twenty nodes of the dodecahedral skeleton. These were the spots where hurricanes originate, or where there are gigantic vortices of ocean currents.



Tesla howitzer systems for anti-tactical ballistic missile defense - a scalar Weapon designed by Nikola Tesla; subject of a 1997 treaty with 10 nations banning it's use, but it's in use today.



Tesla ABM Defenses

Pawn Shop is a apparently a component of the ABM-2/S-225 road-mobile anti-missile and anti-aircraft system developed by Chief Designer A. Raspletin of TSKB Almaz between 1965 and 1978 (source : www.fas.org)

This system is apparently a component of the ABM-2/S-225 road-mobile anti-missile and anti-aircraft system developed by Chief Designer A. Raspletin of TSKB Almaz between 1965 and 1978. The S-225 included the Flat Twin phased array radar for target tracking and interceptor guidance, the Pawn Shop station for transmission of commands, anti-missile interceptors with nuclear warheads, and the command homing posts SYA26 (designed by the OKB Novator) and SYA27 (source : www.fas.org).

A "Tesla Dome" or "Tesla Shield" is spherical or hemispherical barrier of intense electromagnetic energy which can be fairly small or very large, large enough to cover a small city. The spherical field of highly charged energy is such that any kind of object (missile, airplane, bomb) encountering it is instantly destroyed, electronics fried, or in the case of a bomb, either "dudged" or exploded harmlessly outside the sphere (Tom Bearden, Lieutenant Colonel, U.S. Army (Retired), www.cheni.org).

Gornel : 52°28'30"N 030°59'00"E
Chernobyl Reactors : 51°16'N 030°14"E

Vortex 2H Yang hot : (latitude) 52° 36'36.00 N (longitude) 31° 12'00.00 E

In this example we can see that apparently, Gornel's OTH radar is quite in the center of a primary vortex zone (regarding the earth's energetical grid system).

Chernobyl reactors was also placed on an energetical line connected with Gornel's construction. The question rise about these correlations. Do the military system use the Earth's energetical grid system to enhancing the effectivity of scalar weapons ?



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control

Terrestrial Weather Modification

The Russian Woodpecker (part 1)

Last Christmas the low temperature records in 21 states and 60 cities were broken. ... caused the deaths of 138 persons and damaged many millions of dollars worth of crops. While this was going on, December in Europe was unseasonably warm. ... El Nino popped up unexpectedly and off schedule in 1982 and 1983.



Are floods and other freaky weather conditions deliberately caused by Soviet ELF radio signals? (Photo courtesy U.S. Army)

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WEATHER MODIFICATION HISTORY

Is ELF Able To Manipulate The Weather?

Has A Technique Devised By Tesla Permitted The Soviets To Alter The World's Weather?

BY HARRY CAUL, KIL9XL

Last Christmas the low temperature records in 21 states and 60 cities were broken. According to the National Severe Storms Forecast Center in Kansas City (MO), twelve cities shattered all known records for record low December temperatures. While this was going on, December in Europe was unseasonably warm. Paris was basking in temperatures ranging as high as 70 degrees. Notwithstanding the drain on the energy resources of North America, the cold weather here during December caused the deaths of

138 persons and damaged many millions of dollars worth of crops.

Of course, these have not been the only strange weather patterns noted in recent months and years. El Nino, for instance, is a disturbance in the Pacific that shows up every ten years and brings heavy rains to portions of South America. El Nino has traditionally been very limited in scope, but when it popped up unexpectedly and off schedule in 1982 and 1983, *The New York Times* (5 April 1983) reported that it was much larger than usual, with the entire eastern Pacific, from Chile to Alaska, being affected. Even areas as distant as the East Coast of North America were being influenced by El Nino, and El Nino had begun earlier than any previous appearances. *The Times* quoted Dr. Klaus Wyrtki of the University of Hawaii as saying it was "totally unexpected...it also did not follow a period of unusually strong trade winds."

El Nino had previously been noted in the mid-Pacific, but Dr. Jerome Namias of the



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control

Terrestrial Weather Modification

The Russian Woodpecker (part 2)

Dr. Andrew Michrowski, Canadian State Department: “In the Case of the winter of 1976-77, the Soviets managed to establish terrestrial electrical resonance, and then learned how to establish relatively stable and localized ELF magnetic fields, which were able to hamper or divert the jet stream flow in the Northern Hemisphere.”

He further stated, “As the columnar waves rotated clockwise, the westerly winds were sucked upwards counter-clockwise into the upper atmosphere, while a drag brought air from the upper atmosphere on the opposite side.”

Dr. Michrowski postulates that the Soviet ELF signals are pulses on a frequency of 31.5 Hz and have caused “giant standing wave troughs in the Rocky Mountains” between Alberta and New Mexico, and another through the eastern United States.



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control Terrestrial Weather Modification

The Russian Woodpecker (part 3)

Dr. Walter Orr Roberts, Aspen Institute of Colorado: “The idea of changing the conductivity of the atmosphere as a weather modification experiment is not ridiculous.”

Al Beilek, American Electrical Engineer discussed that the Soviets had been experimenting with these signals on a particular frequency but it was only after a change to 31.5 Hz that El Nino’s strange activity began to be observed.

The Washington Post (March 6, 1983) reported that El Nino was the worst it had been in 100 years and that equatorial trade winds, blowing from east to west, stalled.

Scripps Institution of Oceanography (San Diego, CA) was quoted in *The Times* as observing that its new location close to South America had caused air pressure over the Aleutians so very low that it is “unlikely to recur for another century.” He noted that storm tracks had been displaced hundreds of miles southward.

The *Washington Post* (6 March 1983) reported that El Nino was the worst it had been in 100 years and that equatorial trade winds, blowing from east to west, stalled. Warm water normally carried towards Asia stopped, backed up, and ended up being located off South America’s West Coast. Although nobody came forward with an explanation based upon past experiences, the direction of the trade winds was reversed and that caused droughts in Australia and torrential rains in Peru. By the shifting of the course of the jet stream, frigid Arctic air was shot more easterly than normal.

Radically changing weather patterns have brought serious floods to parts of the United States, and even the Utah Salt Flats have begun to flood over for the first time in memory. Several nights per week, the evening network news features bizarre weather phenomena here and abroad—floods, droughts, blizzards, heat waves—where and when they aren’t supposed to be, at the wrong time of the year, and with a severity far worse that people are ready to handle.

Has this been a worldwide weather flip-flop? Probably, and while we have come out on the short end of the bargain it appears that the Soviets have gained warmer winter weather for their farmers in the European USSR and the Ukraine. In fact, Warsaw Pact nations in Eastern Europe such as Romania, Poland, Czechoslovakia, and Hungary have also been experiencing warmer weather. As the jet stream blew all of the cold to North America and away from Siberia (which gives the European USSR its cold winters), it has left a sort-of vacuum into which warm air from Africa has been drawn.

Is all of this sheer coincidence? Has the planet tipped over on its axis? Is it the ozone layer, the greenhouse effect, acid rain, the arrival of Amageddon, or *what*? Amongst the several speculations as to its possible cause, several voices have been heard which suggest the possibilities that it is a deliberate manipulation of the world’s weather by the Soviets in order to aid their troubled agricultural output, and it’s all done with radio waves! A far-fetched explanation? Maybe, but nonetheless fascinating.

In 1978 Dr. Andrew Michrowski of the

Canadian State Department commented on this technique using ELF (extremely low frequency) radio signals. He said, “In the case of the winter of 1976-77, the Soviets have managed to establish terrestrial electrical resonance, and then learned how to establish relatively stable and localized ELF magnetic fields, which were able to hamper or divert the jet stream flow in the Northern Hemisphere.”

He described just how stationary fronts were established over the West Coast of North America, between Baja California and Alaska, which “permitted great diversion of air movement and the maintenance of high and low pressure areas.”

Michrowski went on to observe. “In the case of the winter of 1977-1978, the Soviet scientists involved had the ingenious idea of setting up one series of standing columnar waves that extend from the westerly tip of Alaska all the way to Valparaiso, Chile. This columnar wave form was projected from just outside Angarsk, Siberia. East of this formation, the weather was drier, and west of it, precipitation was enhanced.”

He further stated, “As the columnar waves rotated clockwise, the westerly winds were sucked upwards counter-clockwise into the upper atmosphere, while a drag brought air from the upper atmosphere on the opposite side.”

Michrowski was not alone in his concept. Early in 1977, some American scientists agreed that there was evidence that the Soviets were using high intensity radio signals to move Arctic air masses away from their coastline and towards North America. In 1979, Dr. Walter Orr Roberts of the Aspen Institute of Colorado was quoted as saying, “The idea of changing the conductivity of the atmosphere as a weather modification experiment is not ridiculous.”

Weather is affected by the jet stream 7 to 10 miles above the Earth. Weather modification could be accomplished by regulating the movement of the electrically charged particles in the upper atmosphere. That would result in changing the direction of the jet stream to some degree.

Tesla

It does appear that the Soviets have been exploring the theories and experiments of Nikola Tesla, the Slavic genius who was born in 1856 in what is now Yugoslavia. He came to the U.S. and although he advanced some brilliant concepts and produced a number of startling inventions in the fields of radio and electric power transmission, he was not fully appreciated by his contemporaries. He died a rather obscure person in 1943; however in recent time more serious attention has been paid to his ideas than during his lifetime.

At the turn of the Century, Tesla proved that the Earth might be used as a conductor of electricity and would respond to electrical vibrations at a specific frequency. He demonstrated his theory by illuminating 200 electric lamps at a distance of 25 miles without any connecting wires. He suggested

many possible uses for his discoveries, including modification of the weather.

Dr. Michrowski postulates that the Soviet ELF signals are pulses on a frequency of 31.5 Hz and have caused “giant standing wave troughs in the Rocky Mountains” between Alberta and New Mexico, and another through the eastern United States.

Tesla’s notes still exist even though many of them were never completed. The notebooks are on file at the Tesla Museum in Belgrade, Yugoslavia. A Canadian researcher did manage, in 1976, to locate Tesla’s last known living assistant, Arthur Matthews. In Quebec, Matthews revealed that he had been asked “a lot of questions from a lot of people” including some with “Russian sounding names.” This, of course, doesn’t actually prove anything, except that people do seem to be taking the trouble to try to find out what Tesla was doing.

Further research into the Soviet ELF signals has been conducted by an American Electrical Engineer named Al Beilek who recently delivered a lecture about natural and artificial ELF signals in the Pacific Northwest. Beilek discussed that the Soviets had been experimenting with these signals on a particular frequency but it was only after a change to 31.5 Hz that El Nino’s strange activity began to be observed. He said that the first Soviet transmitting sites were in Riga (Latvian SSR) and Gomel (Byelorussia). (Gomel, it is believed, is also the source of the so-called *Woodpecker* OTH—over the horizon—radar pulses that have been monitored for years by shortwave listeners.) Signals from these sites were noted in 1979 in the Pacific Northwest and were on 15 and 30 Hz. Later examination of the characteristics of the signals implied a connection with Tesla’s experiments and also indicated that one possible transmitting site was near the Ustyurt Plateau (between the Aral and Caspian Seas). It was also observed that when the ELF signals vanished from the airwaves for a two week period in 1980, the Northern Hemisphere’s jet stream flow was normal.

ELF has been recognized by our own government as having military potentials, including for long range underwater communications. It has, however, been the cause for considerable concern by environmental groups that complain about the possible harmful effects if high level signals in the ELF spectrum. In fact, this past January, a federal judge in Wisconsin ordered the U.S. Navy to immediately stop work on its Project ELF system near Marquette, Michigan and not to upgrade its ELF testing facility near Clam Lake, Wisconsin. The Navy claims that the system is intended to defeat Soviet attempts to jam radio communications in the event of a nuclear attack. The Navy’s ELF project was first proposed in the 1960’s, but Judge Barbara Crabb said a 1977 environmental impact statement filed with the EPA in 1977 was insufficient for the project. Judge Crabb also ordered the Navy to stop installing ELF receivers on submarines.

We haven’t heard the last of ELF! Neither have you!

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Space Weather Control

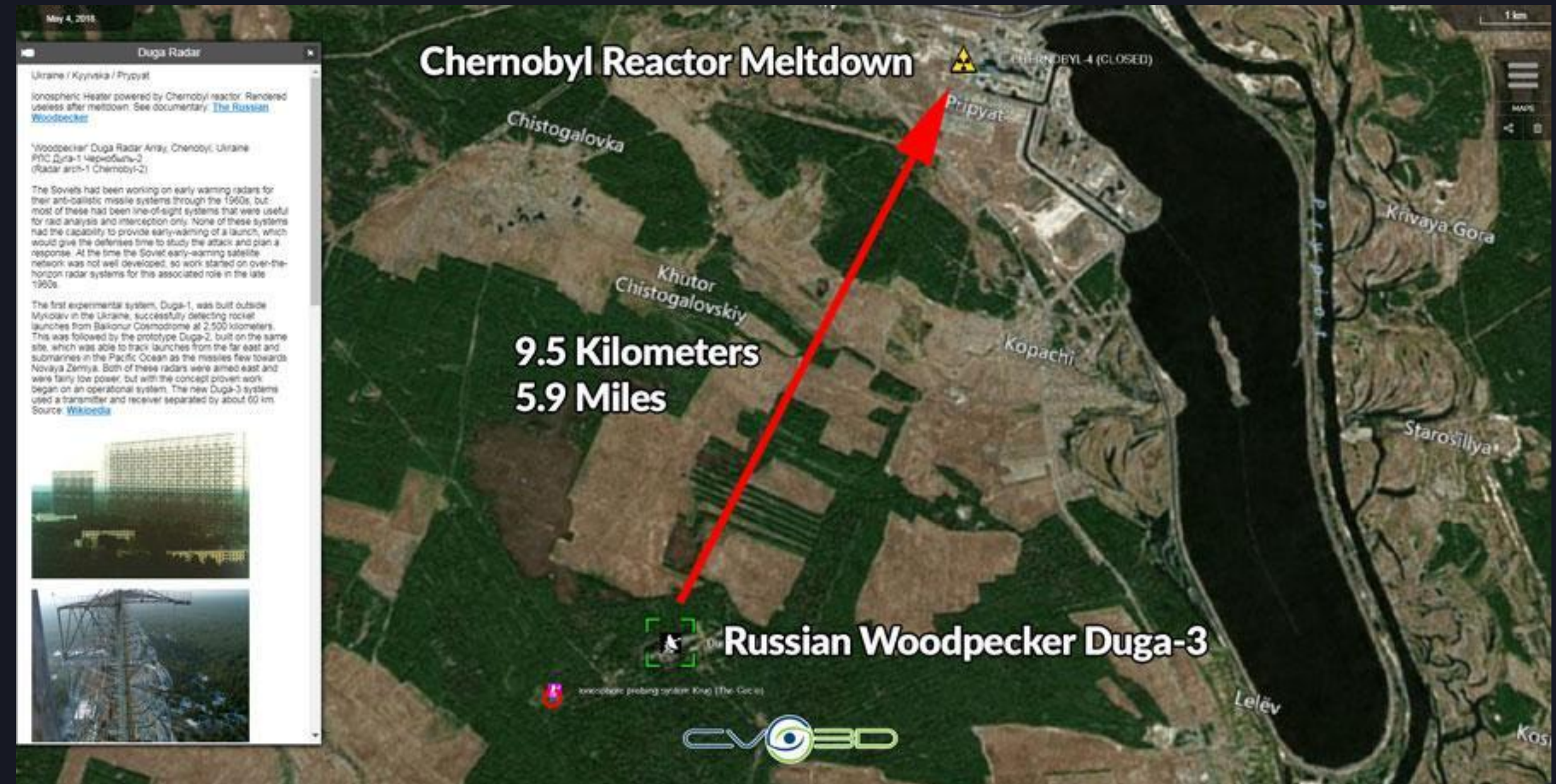
Terrestrial Weather Modification

The Russian Woodpecker (DUGA-3) Destroyed

Chernobyl Meltdown, April 26, 1986

[Reactor 4 meltdown](#) occurred 26 April 1986. The Exclusion Zone covers an area of approximately 2,600 km² in Ukraine immediately surrounding the Chernobyl nuclear power plant where radioactive contamination from fallout is highest and public access and inhabitation are restricted.

This meltdown shut down the Russian Woodpecker at Chernobyl, three years after the “weather warfare” attack on the United States with standing waves, high pressure zones, and the El Nino.



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control

Climate Temperature Control and Ionospheric Holes

The Global Warming Pause

“Could these HAARP activities be the reason for [troubling anomalies in our climate data and modelling?](#) [Anomalies capitalized upon by climate denying](#) interests in their fight against climate activists and concerned scientists.”

[Purposeful Anthropogenic Climate Alteration:](#)
[RF Ionospheric Heater Arrogance \(e.g. HAARP\)](#)



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Weather Control Climate Control

Project LUCY in the Sky With Diamonds

“Generating sunshine reflecting noctilucent clouds in increasing amounts in the mesosphere which will reflect the suns energy back into space.”

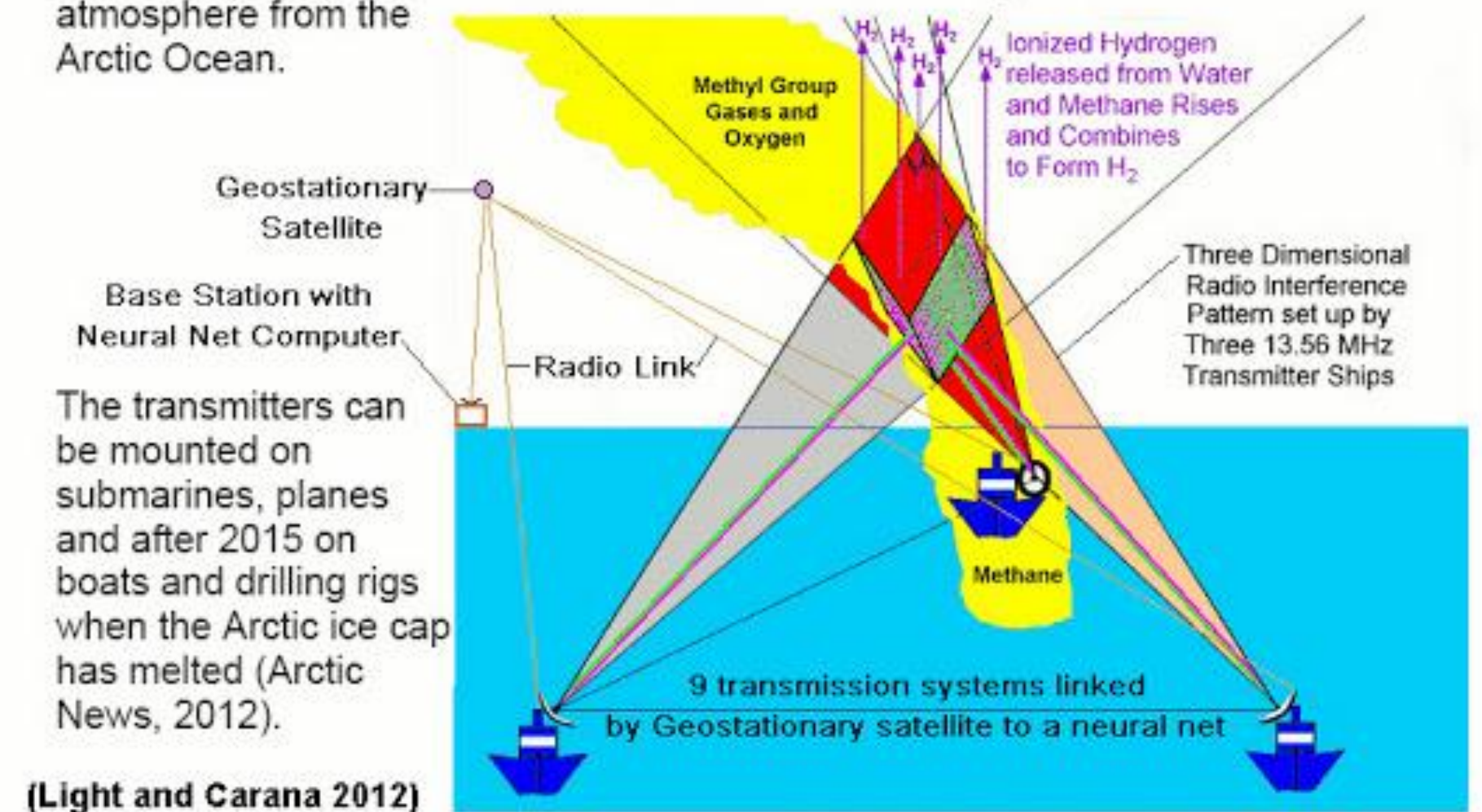
“noctilucent clouds formed from the breakdown of methane in a circular zone above the HAARP transmitter”

“4 other similar facilities in the world (Hipas, Alaska; Arecibo, Puerto Rico, EISCAT, Norway and Sura, Russia) where they could immediately attack the atmospheric methane as well.”

- Arctic Methane Emergency Group (AMEG)

Figure 7. Project Lucy Radio and Laser Atmospheric Methane Cloud Detetection, Energisation and Methane Destruction

Project Lucy therefore aims to design, build and test a microwave transmission system targeting low-altitude methane clouds with the aim of breaking the first C-H bond as soon as the methane erupts into the atmosphere from the Arctic Ocean.



(Light and Carana 2012)

Geostationary satellite links 9 transmission systems to a neural net which continuously monitors the methane content in the cloud & automatically adjusts the frequency, polarization, phase shifts and beam directions of all three separate transmitter arrays to achieve maximum methane destruction

- Three Dimensional radio interference pattern set up by three 13.56 MHz transmitter ships with attached LIDAR and Methane heating lasers with the ability to scan the 3D radio interference pattern in the methane cloud subparallel to the 13.56 MHz radio transmission beam
- LIDAR methane detection laser with 50 km effective range continuously scanning 3D radio interference pattern ahead of the Methane heating laser (Ehret, 2012)
- Methane heating laser continuously scanning 3D radio interference pattern and following behind LIDAR laser (Sternowski, 2012)

Cubic radio interference pattern



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Warfare

“Overall, the U.S. and U.S.S.R. high energy laser (HEL) programs are roughly equal at present time”

Charged particle beam devices, or CPBs, represent “a new phase in the historical development of technology,” the study reports. When perfected, these controlled “lightning bolts” can solve a wide range of scientific and industrial problems, the report states.

But it adds ominously: “Soviet work [on CPBs] is strong in exactly the areas needed for weapons application ... It is believed that the Soviets are ahead of the U.S. in many other particle beam weapon (PBW) technologies.

ARTICLE APPEARED THE WASHINGTON POST
ON PAGE C11 25 May 1981

Declassified in Part - Sanitized Copy Approved for Release 2012/01/03 : CIA-RDP90-00965R000100160095-3

JACK ANDERSON

The Race for 'Star Wars' Weapons

The United States and Soviet Union are engaged in a deadly race to develop “Star Wars” weapons, like laser beams and man-made lightning bolts. The top-secret plans call for mounting them aboard future space-ships.

Indeed, the space shuttle Columbia may be the forerunner of future Galactica-like battleships that may cruise in space. But if the United States is ahead in developing a reusable spaceship, the Kremlin's scientists may have the edge in other crucial areas of research.

Now that the Soviet Union has apparently caught up in the sophistication of its strategic missiles, the Reagan administration is likely to decide that the United States should concentrate on keeping ahead in the field of laser technology. One intelligence expert who attended a secret laser briefing called it “the hottest briefing in town.”

What makes these “directed energy” weapons so hot is that they are expected to make strategic missiles obsolete within the next 20 years. Laser beams can be thwarted by clouds and other atmospheric disturbances, but a similar ray gun called a “particle beam weapon” would be virtually unstoppable. Both super-powers are trying to perfect them.

“The Soviets have had a research program under way since 1970 aimed at developing lasers with weapons applications,” reports a top-secret Central Intelligence Agency document. The CIA identified several possible Soviet laser ranges and one probable — at Golovino, about 100 miles east of Moscow. “It is similar in length and layout to U.S. high-energy laser test ranges,” the CIA explained, adding:

“Similar U.S. programs suggest that the kinds of tests most likely ... performed at these sites are those most suitable for ground or air-based defense, including air-to-air combat, although the results would also be useful for programs concerning anti-ballistic missile, anti-satellite or laser-guided munitions.”

Who's ahead? An assessment of the U.S.-Soviet balance in laser and other directed-energy weapons is contained in a highly classified study conducted last year by the Arms Control and Disarmament Agency. It was shown to my associate Dale Van Atta.

“Overall, the U.S. and U.S.S.R. high energy laser (HEL) programs are roughly equal at the present time,” the secret report says, “although the U.S. is believed to have an advantage in the pointing, tracking, optics and control technologies ...”

The Russians “appear to be ahead in short pulse lasers and electrical discharge lasers, which could be useful ... for military applications in the atmosphere.”

As for the awesome particle-beam weapons, the report says the Soviet Union is believed to have had a research and development effort under way for possibly 20 years.

Charged particle beam devices, or CPBs, represent “a new phase in the historical development of technology,” the study reports. When perfected, these controlled “lightning bolts” can solve a wide range of scientific and industrial problems, the report states.

But it adds ominously: “Soviet work [on CPBs] is strong in exactly those areas needed for weapons application — whereas U.S. work to date has not been pointed toward military applications.”

The report continues: “It is believed that the Soviets are ahead of the U.S. in many other critical PBW technologies ... and that the present Soviet level of effort should permit them to continue to advance in these technology areas at a rapid rate.”

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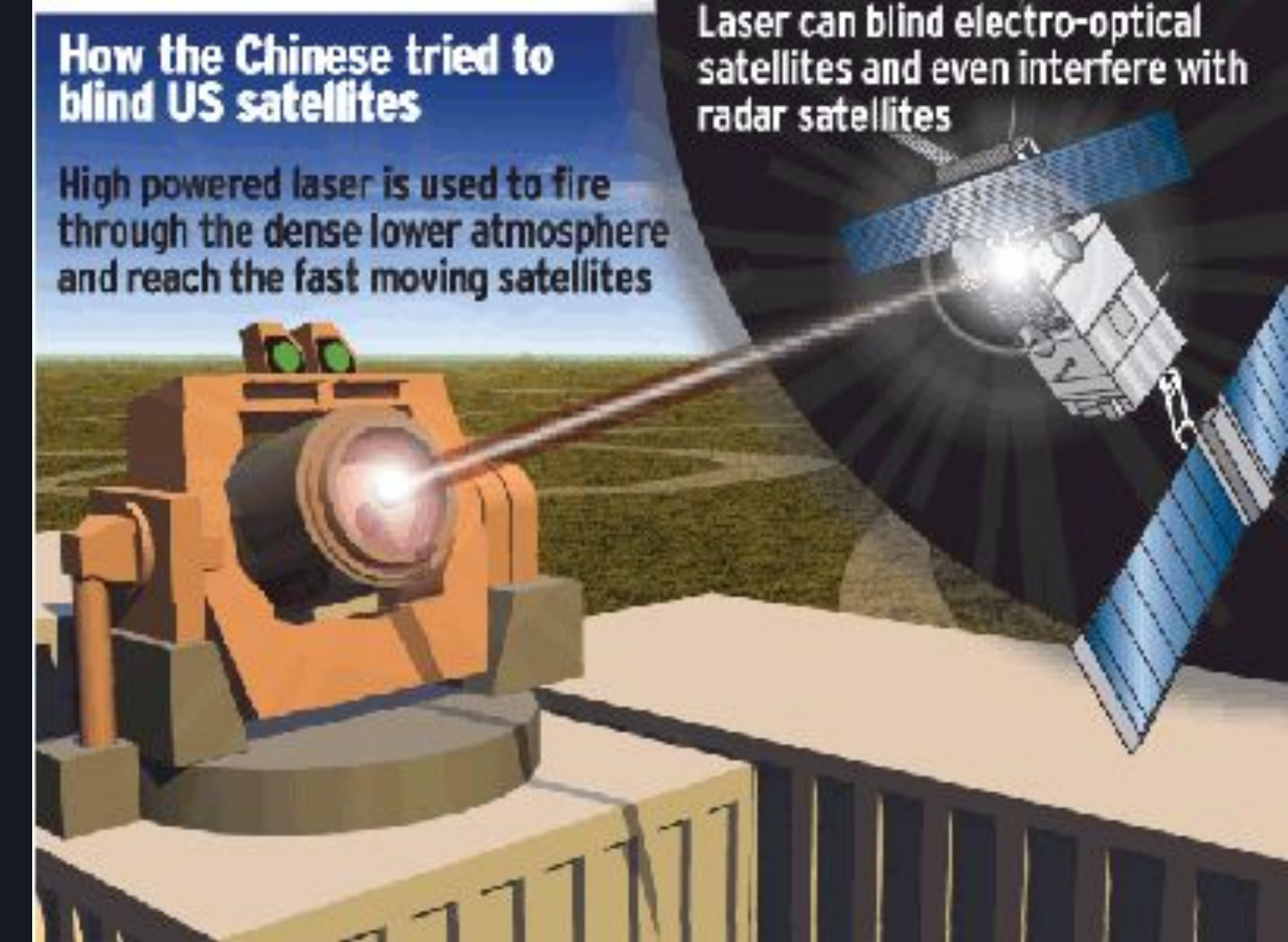
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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Space Warfare

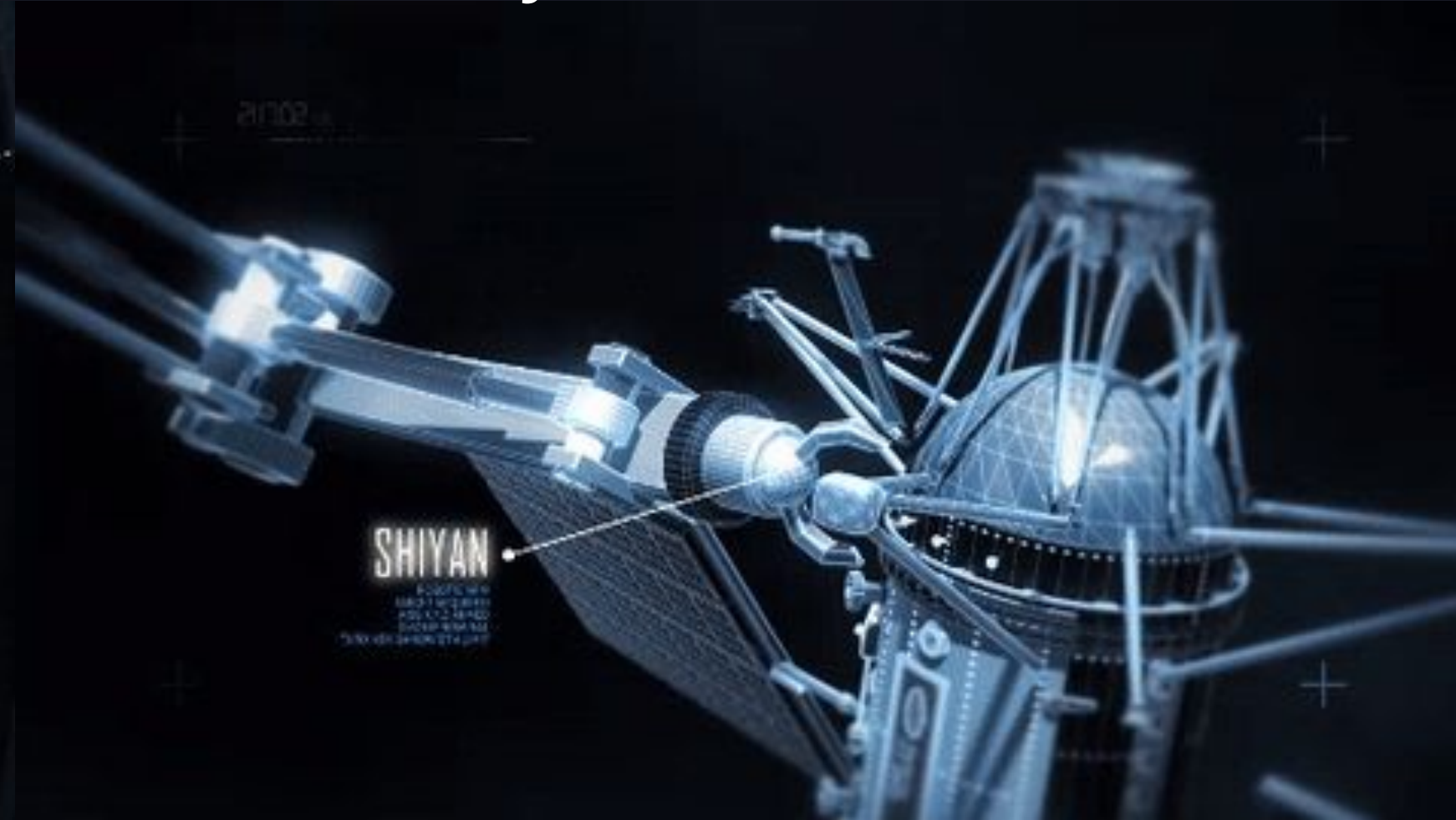
China's military is developing powerful lasers, electromagnetic railguns and high-power microwave weapons for use in a future "light war" involving space-based attacks on satellites. Beijing's push to produce so-called directed-energy weapons aims to neutralize America's key strategic advantage: the web of intelligence, communication and navigation satellites enabling military strikes of unparalleled precision expeditionary warfare far from US shores.



Kamikaze Satellites



Hijacker Satellites



Laser-Blinding Satellites



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



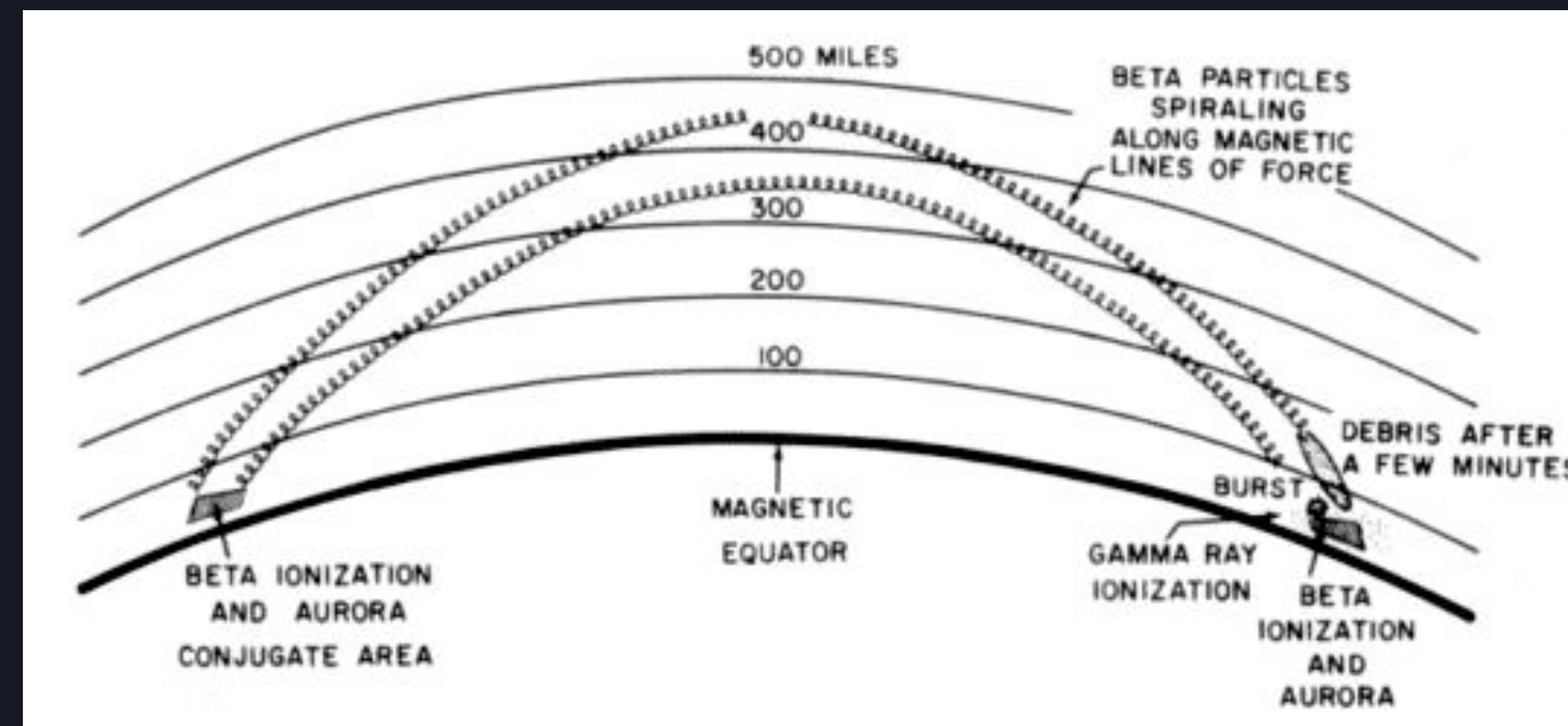
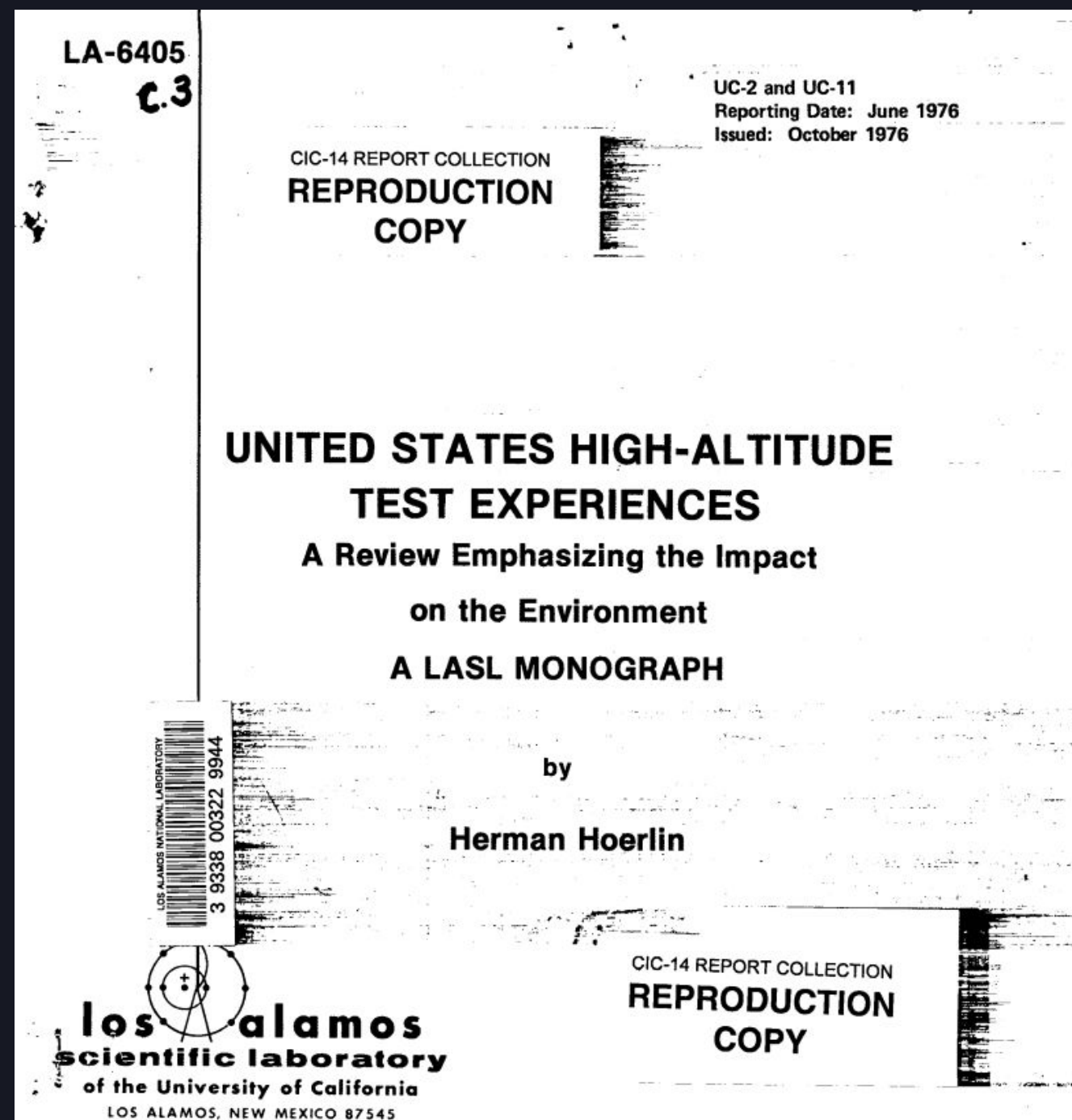
Fire The HAARP

Trump's Space Force: "Space, it's where it's at"



Radiation Belt Remediation (Artificial Aurora)

Christofilos Effect could fry satellites and Intercontinental Ballistic Missiles



The Christofilos effect would produce an area of highly charged particles at a selected location. It was believed that by flying through this region at high speeds, the warheads or guidance systems of attacking missiles might be damaged.



- Operation Argus (USA) August 27 - September 6, 1958
- Operation Hardtack (USA) - August 1-12, 1958
- Starfish Prime (USA) - July 9, 1962
- Operation K (Russia) - October 22 - November 1, 1962



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Radiation Belt Remediation & Artificial Aurora

Sucking radiation from space to prevent damage from EMP and Solar Flares

SATELLITE THREAT DUE TO HIGH ALTITUDE NUCLEAR DETONATIONS

DENNIS PAPADOPOULOS
PHYSICS DEPARTMENT
UNIVERSITY OF MARYLAND

Acknowledge Input From

- DTRA HAND/HALEOS STUDY
- TETHER PANEL HAARP STUDY

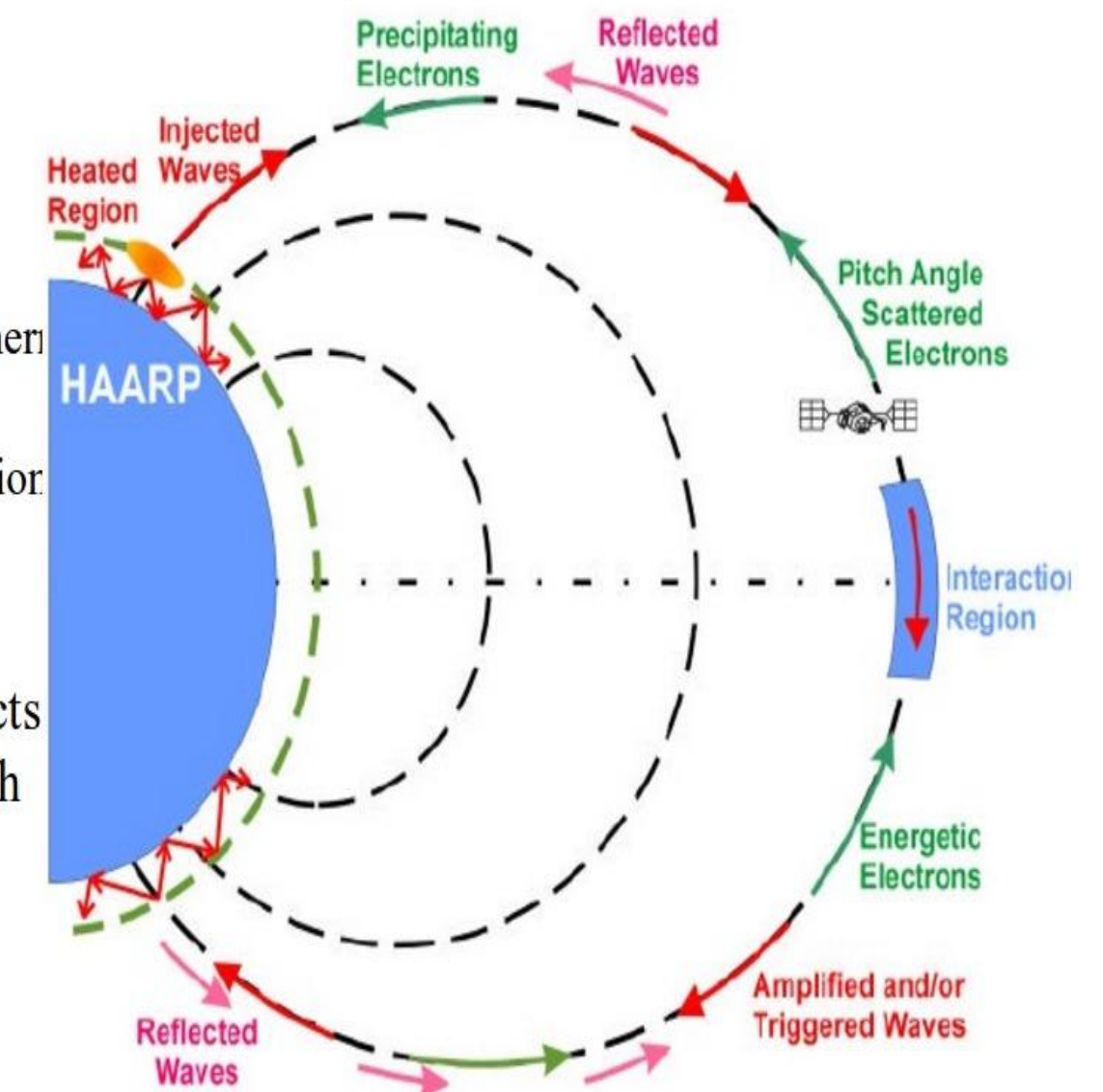
The electromagnetic pulse generated by the (nuclear) explosion and the “Christofilos Effect” — the creation of an artificial radiation belt around the Earth — could cripple “low Earth orbit” satellites and with them many of the world’s communications systems, Jane’s reported.

A high-altitude (nuclear) explosion “produces an artificial radiation belt that, within weeks to at most months, delivers a lethal dose of radiation to satellites,” said Dennis Papadopoulos, a scientist at the University of Maryland who worked with Nicholas Christofilos, who predicted the effect.

“If someone were to explode a 10-kiloton nuclear weapon at a high enough altitude over their own territory, **90 percent of the world’s low Earth orbit satellites would be lost within a month,**” Papadopoulos said.

TETHER Panel Recommendation: Use HAARP facility in Alaska as a “wind tunnel” to determine the feasibility and engineering specifications of a mitigation system.

- Observe amplified and triggered waves
 - At conjugate region (Southern Pacific)
 - Near HAARP upon reflection in the south
- Observe ionospheric effects of precipitated electrons with HAARP diagnostics



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Radiation Belt Remediation & Artificial Aurora

CREATING “RADIO-ENHANCED AIRGLOW”

The artificial aurora (properly called radio-enhanced airglow) occurs at an approximate altitude of 150 to 300 km and can be photographed, conditions permitting, from distances several hundreds of kilometers from HAARP, including near the main population centers of Alaska: Anchorage, Fairbanks, and Juneau. The HAARP artificial aurora is usually not sufficiently luminous to be seen with the unaided eye except under exceptional conditions, and even the best case it is as bright (though much smaller in appearance) as the Andromeda galaxy.

Artificial Aurora produced by HAARP (properly called radio-enhanced airglow) As seen from the University of Alaska, Fairbanks. Another view of the magnetic field line and a view from space (right).

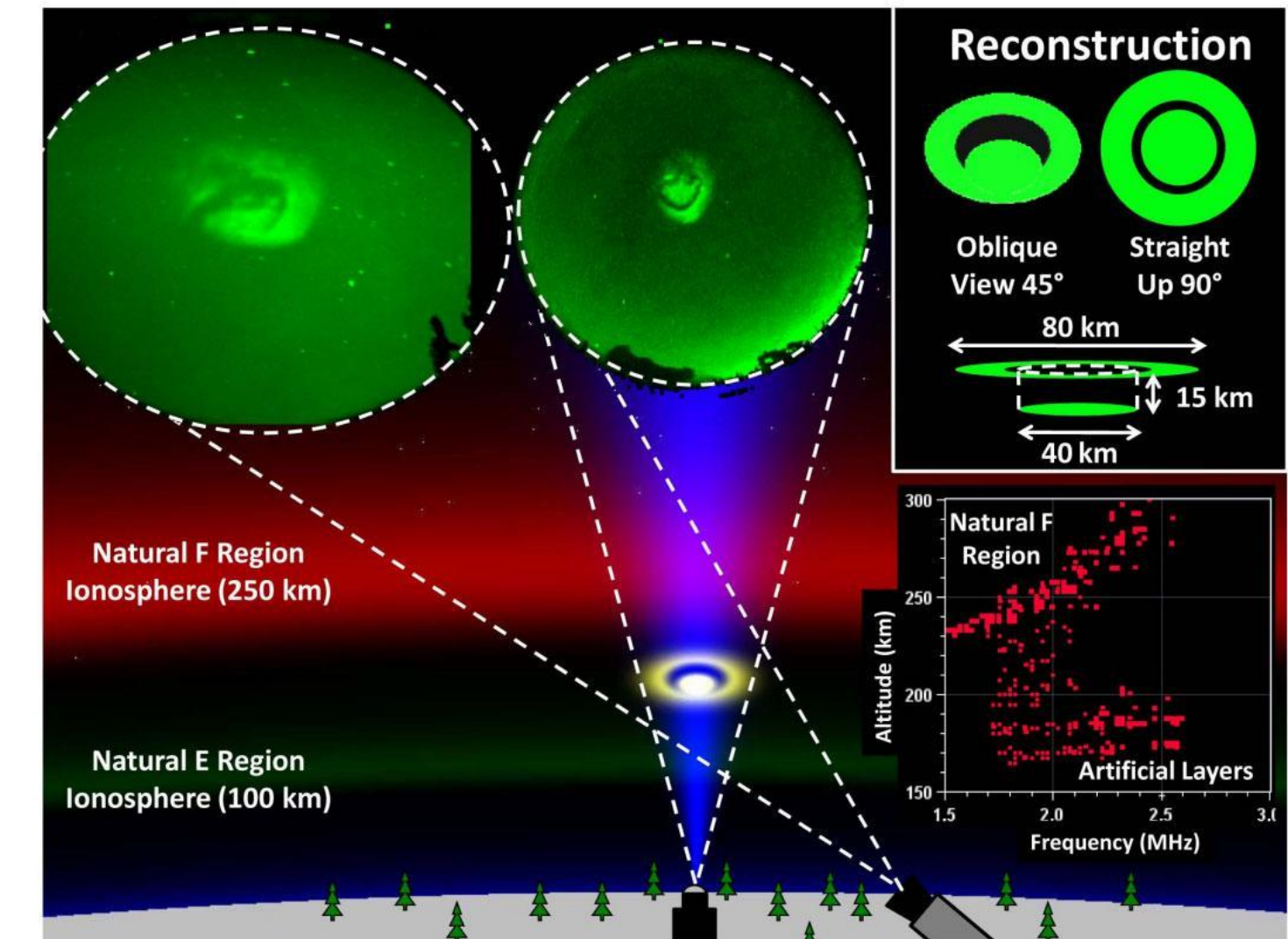
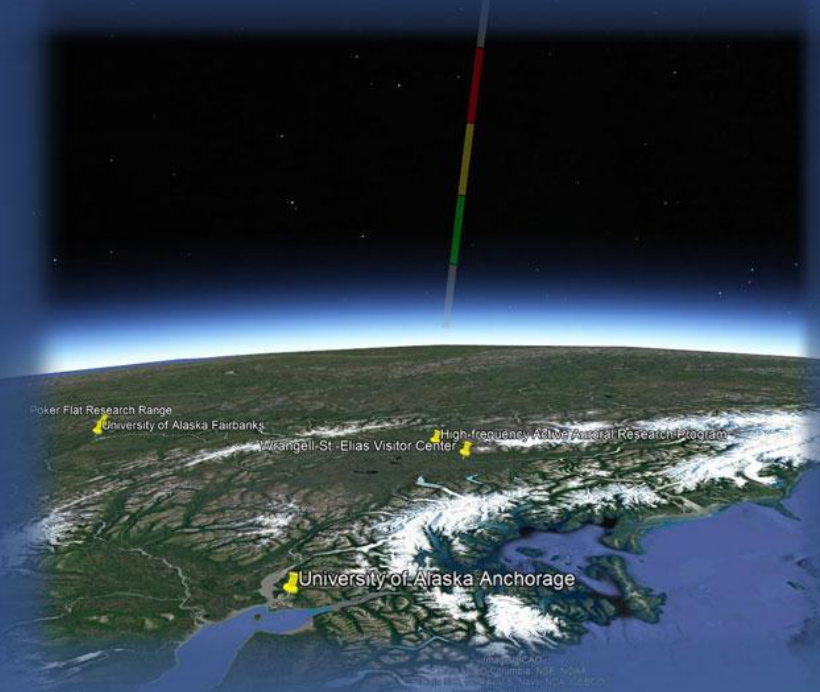


Fig. 1. Observation geometry and image data from two low-light imaging systems capturing 557.7-nm emissions from a bull's-eye-shaped artificial ionospheric plasma over the HAARP facility. A reconstruction based on the image data shows the central spot and the ring to form two distinct artificial layers separated in altitude by ~15 km, which matches closely the multiple layers seen in ionosonde echoes (lower right).



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



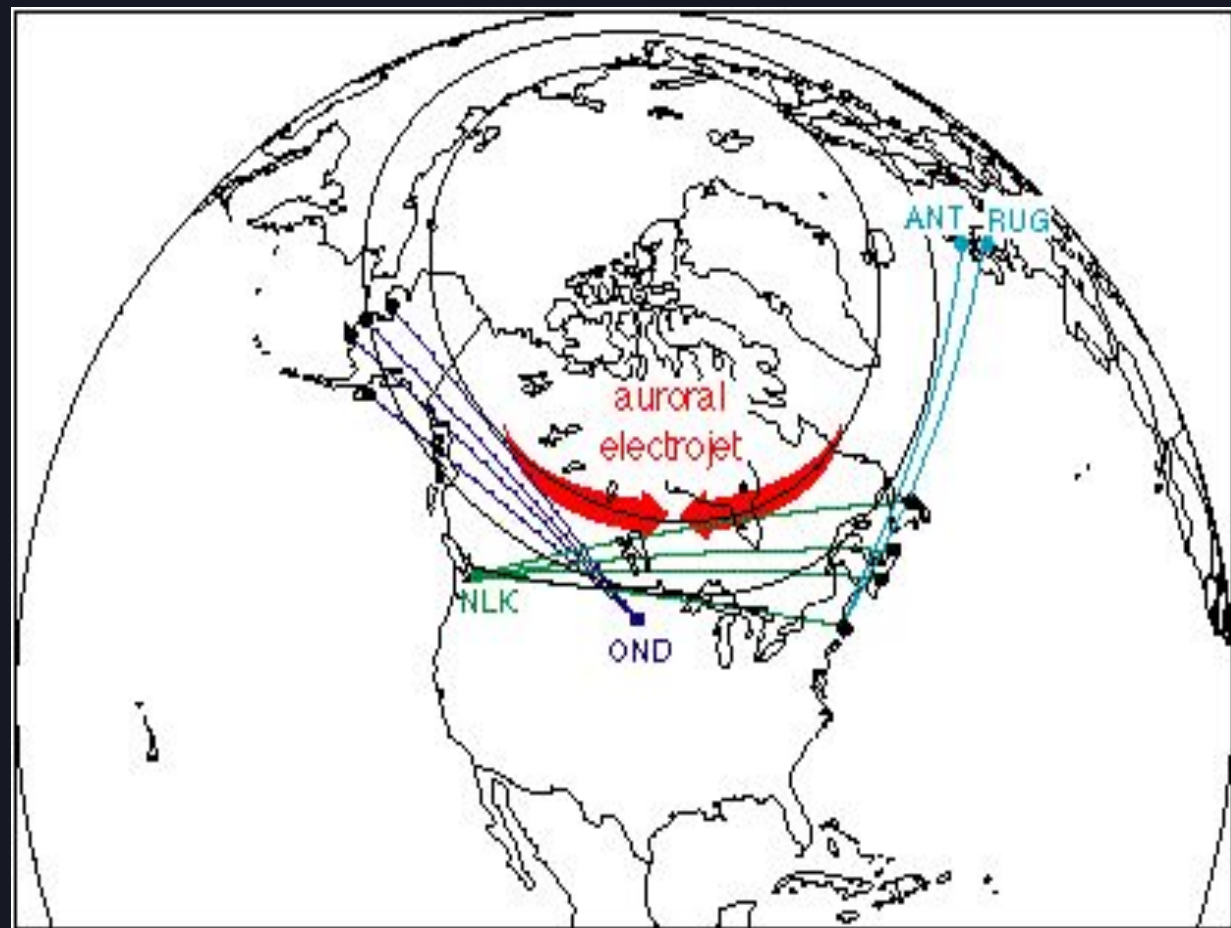
Extremely Low Frequency (ELF and ULF) Waves

Creating ELF from High Frequency Transmissions

Polar Electrojet (PEJ) Antenna

High-latitude Ionospheric Heaters can use the Electrojet, a naturally occurring electrical current in the D/E Region (70-90 km) of the ionosphere, as both an amplifier and virtual antenna. belts, hopping back and forth.

[Ionospheric Heaters: How HAARP really works](#)



The Polar Electrojet (PEJ) Antenna

EIW Excitation: Bottom $M_{bot} \approx IL\delta$,
Top $M_{top} \approx ILh$

$M_{top}/M_{bot} \sim h/\delta \gg 1$

How to excite the EIW from the top?

- Find an electrojet region – $I \sim \Sigma E$
- Place an ionospheric heater (HAARP)
- Use heater to modulate Σ at ELF/VLF
- Get an $M_{top} \sim (\Delta\Sigma)ELh$ at the mod. freq.
- Polar Electrojet Antenna (PEJ)

Problems with PEJ - Dependence on E

- Can vary by two orders of magnitude
- Solar driver of E operates in areas far from applications

2.3 kHz Midway 4.5 Mm

1 Hz

HF Ionospheric Heaters as "VIRTUAL" ULF/ELF/VLF Antennae

Two techniques : 1. Current modulation –Polar Electrojet (PEJ) Antenna – Requires the presence of an electrojet current – not applicable at mid-latitude

ELF / VLF < 20kHz

100 km

HF Transmitter

- Natural Currents Flow in the Auroral and Equatorial Ionosphere at 80-100 km
- The HF signal (modulated at ELF/VLF) heats and thereby changes the local conductivity of the ionosphere
- The electrojet current is then caused to vary at the same ELF/VLF rate
- Propagating ELF/VLF signals are radiated by this 'virtual antenna'



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE

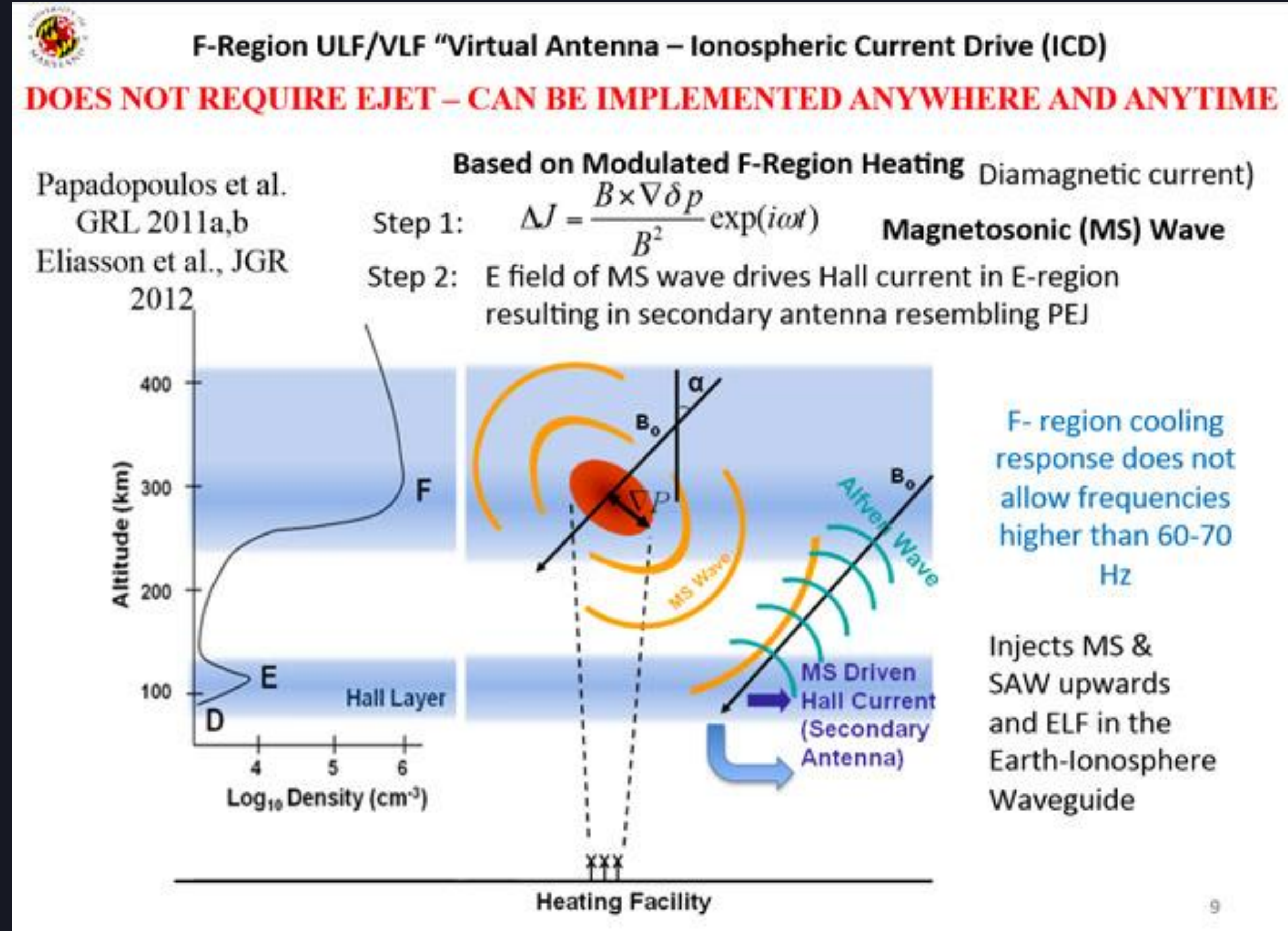


Extremely Low Frequency (ELF and ULF) Waves

Creating ELF from High Frequency Transmissions

Ionospheric Current Drive (ICD)

Both High Latitude and Equatorial Ionospheric Heaters may use an alternate method to produce UFL/ELF waves that does not require the Electrojet. By heating the F layer (150–800 km) of the ionosphere, Magnetosonic (MS) waves are create a secondary Alfven wave generator in the E Region. These Alfven waves travel upward and follow the Van-Allen belts, hopping back and forth. [Ionospheric Heaters: How HAARP really works](#)



SUMMARY

- ELF produced by HAARP with **NO Electrojet – A Major Breakthrough** based on discoveries in recent HAARP campaigns under MURI/ONR and BRIOCHE/DARPA programs
 - Predictable and repeatable ELF generation up to 50 Hz on daily basis
 - $M_{eff} \approx 4 \times 10^9 \text{ A}\cdot\text{m}^2$
 - Validated technique: plasma currents driven by HF heating in the F/E layers
 - Technology transferable to low latitude regions with robust F & no E'Jet
- An efficient Ionospheric ELF source that can be positioned in theater on a mobile platform
 - Data rate >> FELF system
 - Higher source strength
 - High TRL level for transitioning




IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



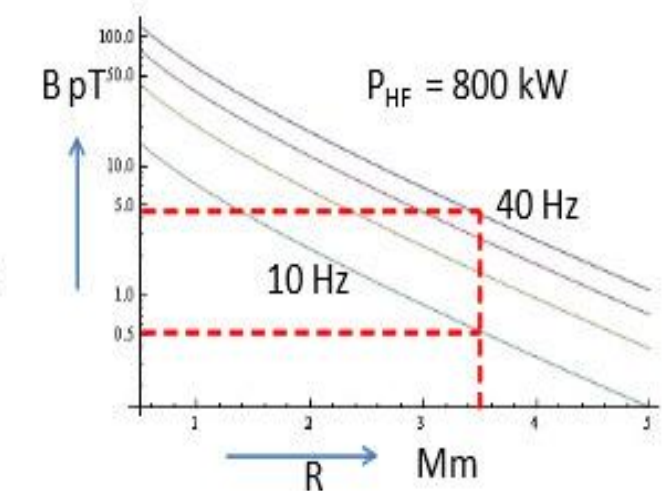
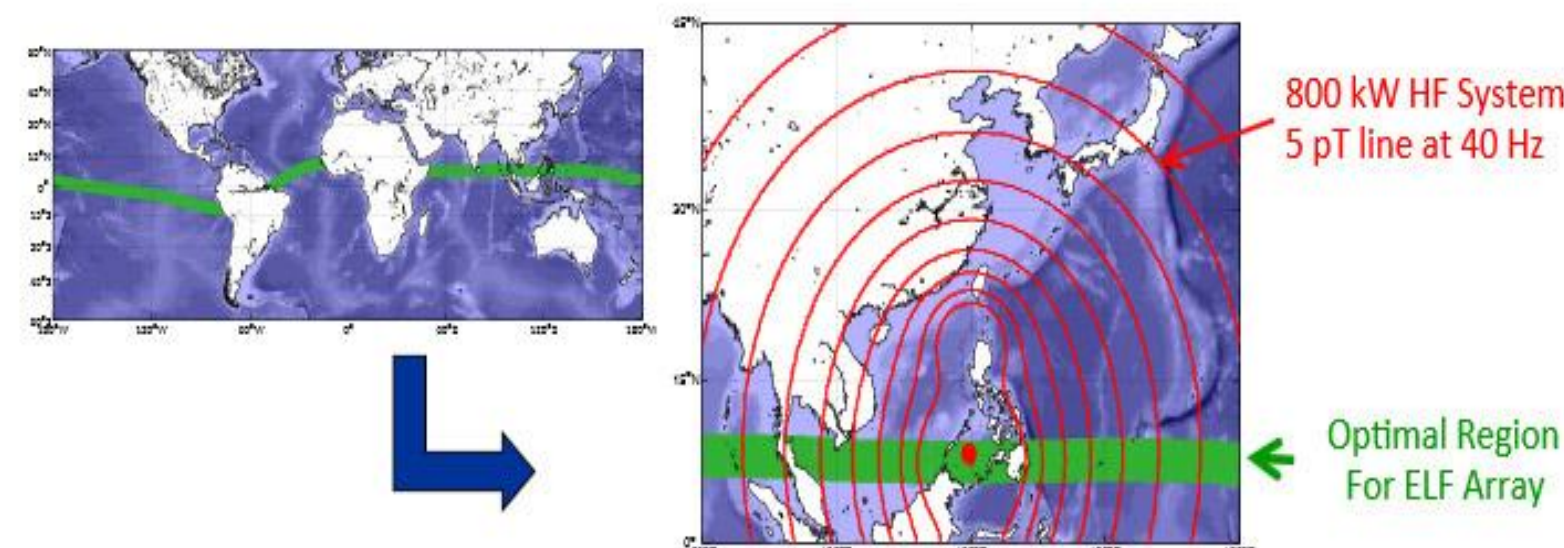
Extremely Low Frequency (ELF and ULF) Waves

Mobile Ionospheric Heaters on Boats



ELF Mobile Array Performance

- Optimal area for Mobile Array along Magnetic Equator (green band, within 2° from dip equator)
- Power requirements depend on location
 - Example: Korea - Yellow Sea
 - 800 KW system can provide data rates in the tens of bit/sec
 - Signal as large as 5 pT at 40 Hz or more at range of 3500 km
 - Typical background noise at 40-80 Hz is 200-500 fT/Hz^{1/2}

800 kW HF System
5 pT line at 40 Hz


Optimal Region For ELF Array

ELF Sub-Comm. DARPA-STD Briefing 58

The Ionosphere controls the performance of critical DoD & civilian systems [Communications range, radar, navigation, Geolocation accuracy, etc]


- DoD/civilian active research using traditional ionospheric heaters provided new capabilities and applications that allow control/exploitation of triggered processes (in space, artificial clouds, irregularity control,)
- The low power of traditional heaters resulted in large arrays and active elements, with complex and costly controls leading to fixed installations
- Fixed locations are associated with fixed magnetic geometry limiting the scope of the research investment

HAARP on a Boat? Ionospheric Heaters go Mobile!




Implications - Barge or Shipboard Option

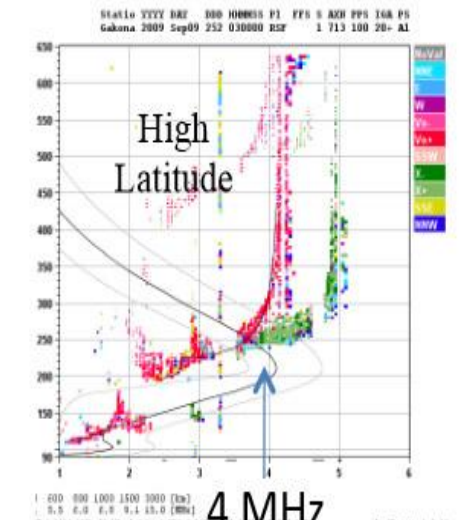
Combination of low HF power and high HF frequency requirements allow for mobile option



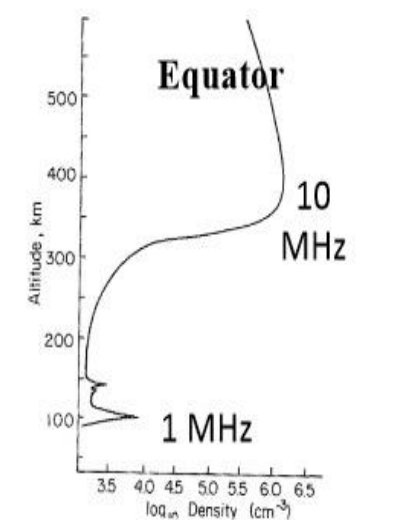
Strawman HF Array



- HF frequency 8-10 MHz
- Linear polarization
- Twenty 25-kW solid state transmitters
- Ship provided power



High Latitude
4 MHz



Equator
10 MHz
1 MHz

- Can provide theater and strategic sub communications
- Enhance Blue-Green laser tactical communications by providing info as to transmit and receive locations

Extremely Low Frequency (ELF and ULF) Waves

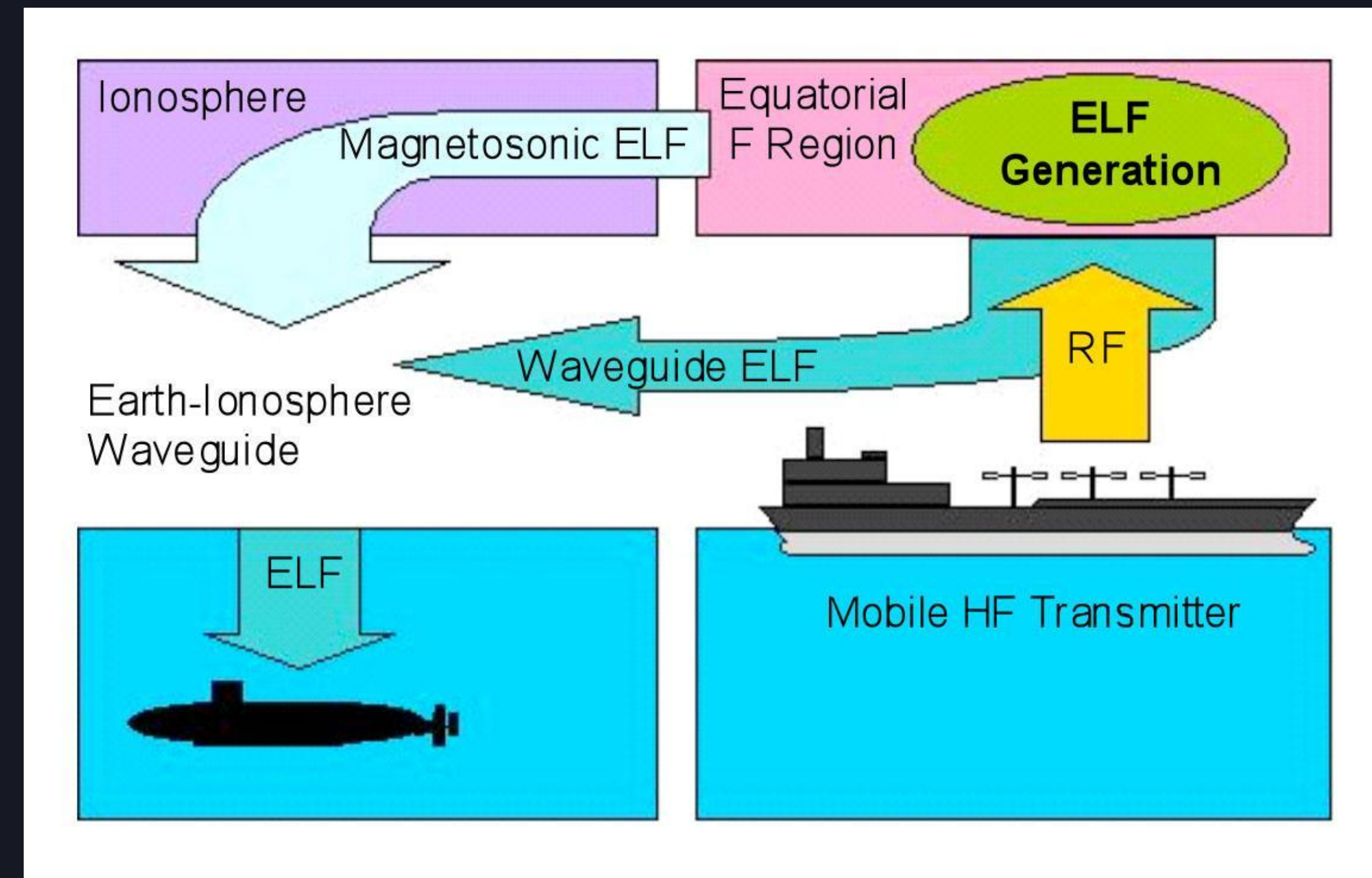
Signaling the Apocalypse: Talking to Submarines

Pre-emptive nuclear strike

ELF waves are sent to submarines telling them to surface so they can receive radio frequency or laser-based instructions (launch codes and targets) from military commanders.

These instructions will not reach underwater, however, ELF and ULF waves reach the bottom of the ocean.

In nuclear strategy, a first strike is a preemptive surprise attack employing overwhelming force. First strike capability is a country's ability to defeat another nuclear power by destroying its arsenal to the point where the attacking country can survive the weakened retaliation while the opposing side is left unable to continue war. The preferred methodology is to attack the opponent's strategic nuclear weapon facilities (missile silos, submarine bases, bomber airfields), command and control sites, and storage depots first. The strategy is called [counterforce](#).



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



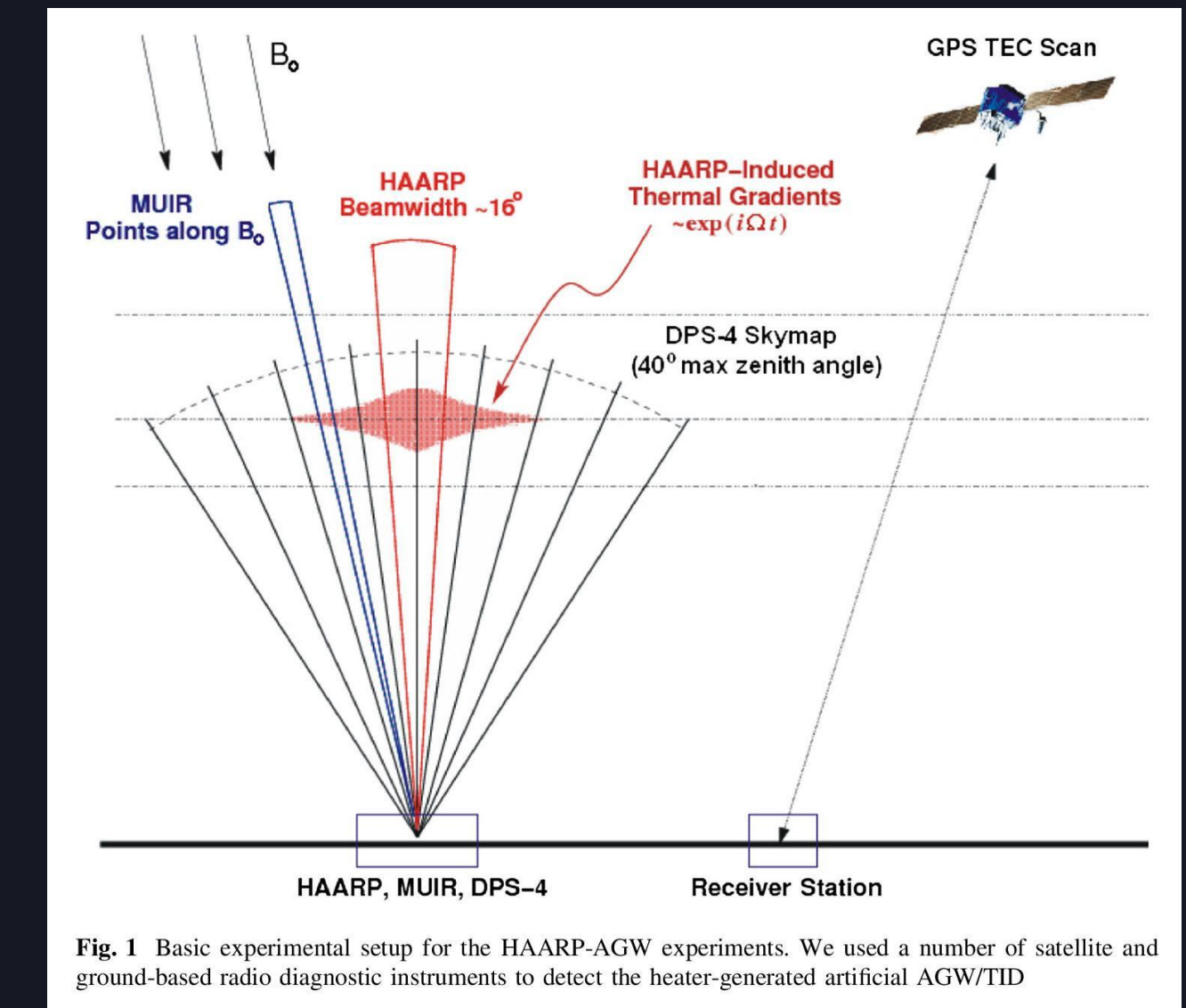
Extremely Low Frequency (ELF and ULF) Waves Artificial Gravity Waves (AGW) and Traveling Ionospheric Disturbances (TID)

“Results of our ionospheric HF heating experiments to generate **artificial acoustic-gravity waves (AGW) and traveling ionospheric disturbances (TID)**, which were conducted at the High-frequency Active Auroral Research Program (HAARP) facility in Gakona, Alaska.

The result of our experiments at the HAARP facility indicates that artificial AGW/TID can be generated in the ionosphere by the means of a modulated HF heating.

During the modulated heating, MUIR radar detected that the wind velocity outside the heated plasma volume was oscillating periodically with the same frequency as that of the heater power modulation cycle.”

[Generation of Artificial Acoustic-Gravity Waves and Traveling Ionospheric Disturbances in HF Heating Experiments](#)



Reviews of Geophysics

AN AGU JOURNAL

Atmospheric gravity waves generated in the high-latitude ionosphere: A review

First published: May 1982 | <https://doi.org/10.1029/RG020i002p00293> | Cited by: 318

F2-region atmospheric gravity waves due to high-power HF heating and subauroral polarization streams

E. Mishin,¹ E. Sutton,¹ G. Milikh,² I. Galkin,³ C. Roth,⁴ and M. Förster⁵

Received 11 April 2012; revised 2 May 2012; accepted 2 May 2012; published 1 June 2012.

Investigation of acoustic **gravity waves** created by anomalous heat sources: experiments and theoretical analysis

R Pradipta¹ and M C Lee^{1,2}

Published 16 July 2013 • 2013 The Royal Swedish Academy of Sciences

[Physica Scripta, Volume 2013, T155](#)



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Extremely Low Frequency (ELF and ULF) Waves

Mind Control – Influencing Nervous Systems by Electrical Methods

Extremely Low Frequency (ELF) waves: ELF waves up to 100 Hz are once more naturally occurring, but they can also be produced artificially (such as for the Navy's Project Sanguine for submarine communication). ELF-waves are not normally noticed by the unaided senses, yet their **resonant effect upon the human body** has been connected to both physiological disorders and emotional distortion.

["From PSYOP to MindWar: The Psychology of Victory."](#)



HAARP program, and not controlled by the global community, will create weapons capable of breaking radio communication lines and equipment installed on spaceships and rockets, provoke serious accidents in electricity networks and in oil and gas pipelines and **have a negative impact on the mental health of people populating entire regions**, the deputies said. They demanded that an international ban be put on such large-scale geophysical experiments.

[Russian parliament concerned about US plans to develop new weapon](#)

Acronym	Full Designator	Freq Range	Applications
ULF	(Ultra-Low Frequencies)	3 - 30 Hz	
ELF	(Extremely Low Frequencies)	30 - 300 Hz	Navy strategic communications
VF	(Voice Frequencies)	300 - 3000 Hz	
VLF	(Very-Low Frequencies)	3 kHz - 30 kHz	Navy strategic communications
LF	(Low Frequencies)	30 kHz - 300 kHz	Navy Comm, Navigation (NDBs)
MF	(Medium Frequencies)	300 kHz - 3 MHz	Navigation (NDBs), AM Broadcast
HF	(High Frequencies)	3 MHz - 30 MHz	Short Wave, Ham Radio, Int'l Broadcast
VHF	(Very-High Frequencies)	30 MHz - 300 MHz	FM Broadcast, Television, Police/Fire
UHF	(Ultra-High Frequencies)	300 MHz - 3 GHz	Satellite, GPS, Cell Phone, Television
SHF	(Super-High Frequencies)	3 GHz - 30 GHz	Satellite Comm and Broadcast
EHF	(Extremely High Frequencies)	30 GHz - 300 GHz	Satellite Comm



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Extremely Low Frequency (ELF and ULF) Waves

Mind Control – Snuffing the Schumann Resonance

Schumann resonances: 7.83, 14, 20, 26, 33, 39 & 45 Hz.

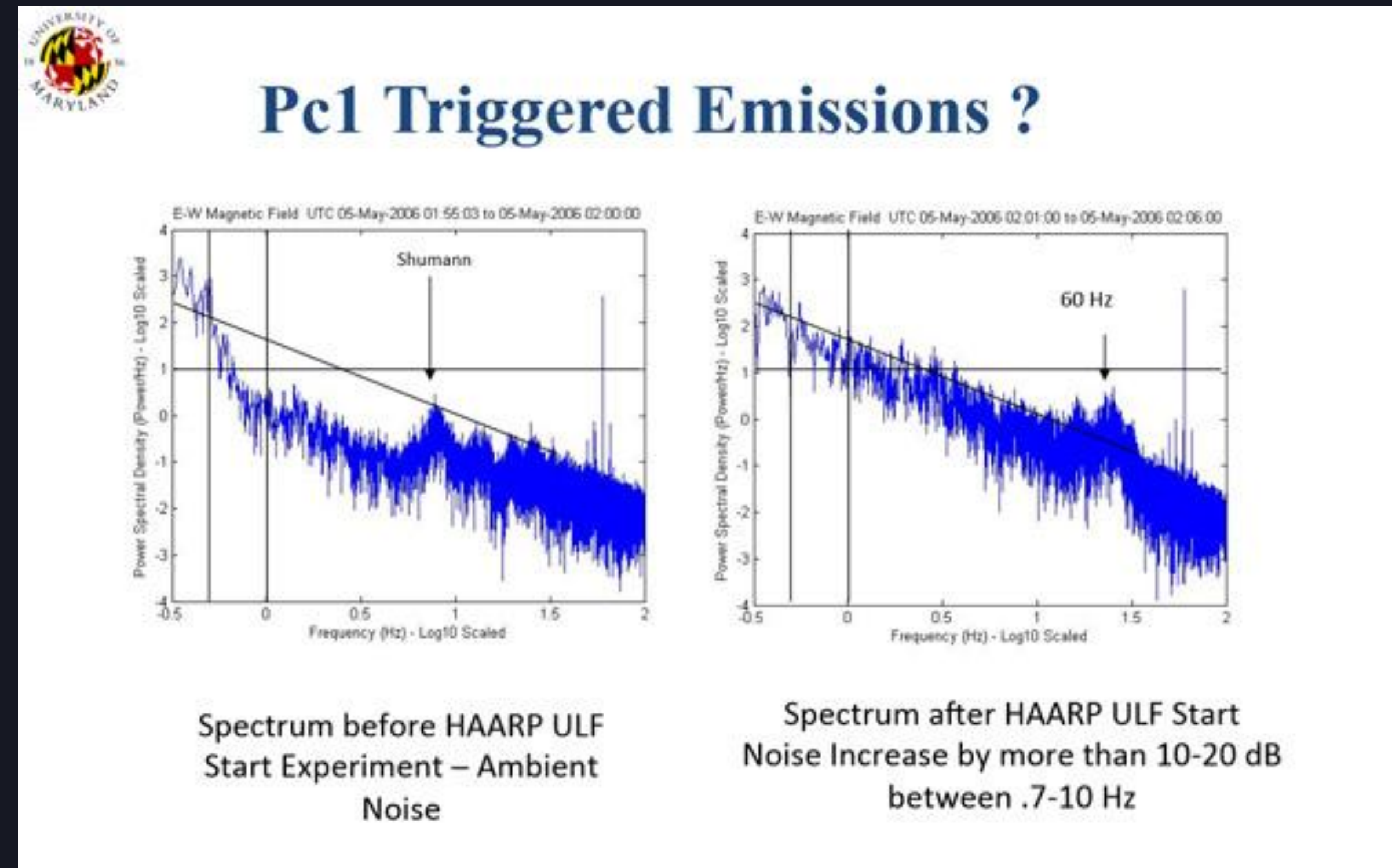
Resonant frequency of the planet Earth which is 10 Hz as Nikola Tesla discovered.

Damaging this planetary heartbeat could be detrimental to all life on this planet.

In the name of progress, this Earth Pulse is now threatened with the ever-growing phenomenon of man-made electro-pollution in an advancing technological age.

Brainwave Evolution: Lewis B. Hainsworth was among the first to suggest that human health is linked to a geophysical framework by way of the naturally occurring Schumann ELF (extremely low frequencies). His theory identified naturally occurring features which determine the frequency spectrum of human brain-wave rhythms. He concluded that **the frequencies of human brain-waves evolved in response to these signals.**

[The Schumann Effect Part 1: How the Earth Influences Your Brain Waves](#)



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Extremely Low Frequency (ELF and ULF) Waves

Mind Control – Not Really Practical, Yet



The ELF and ULF produced by HAARP may have effects on EMF sensitive individuals and unknown effects on all life forms on Earth due to interaction and interruption of the Schumann Resonances, but currently: **HAARP CANNOT CONTROL YOUR MIND!**



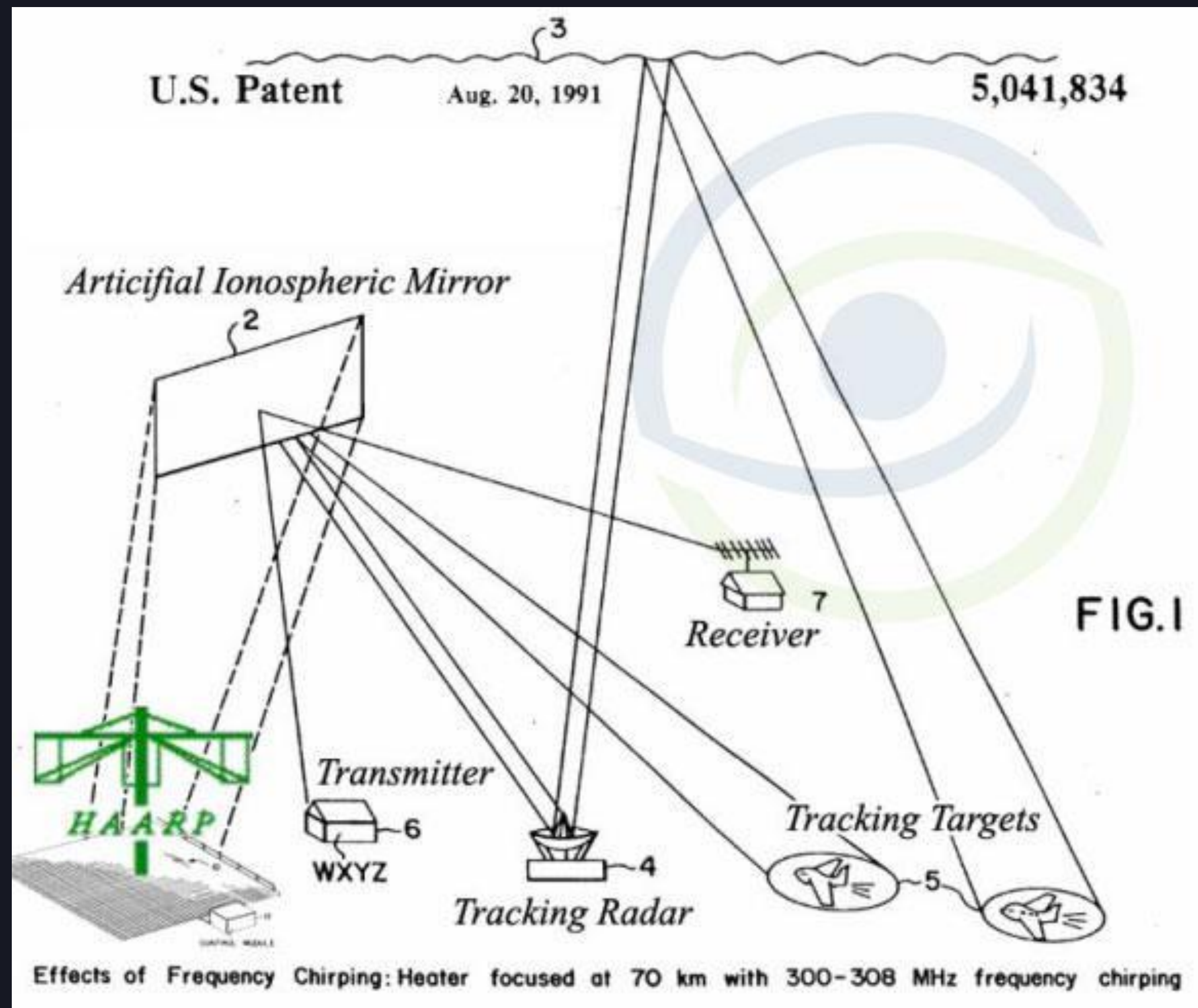
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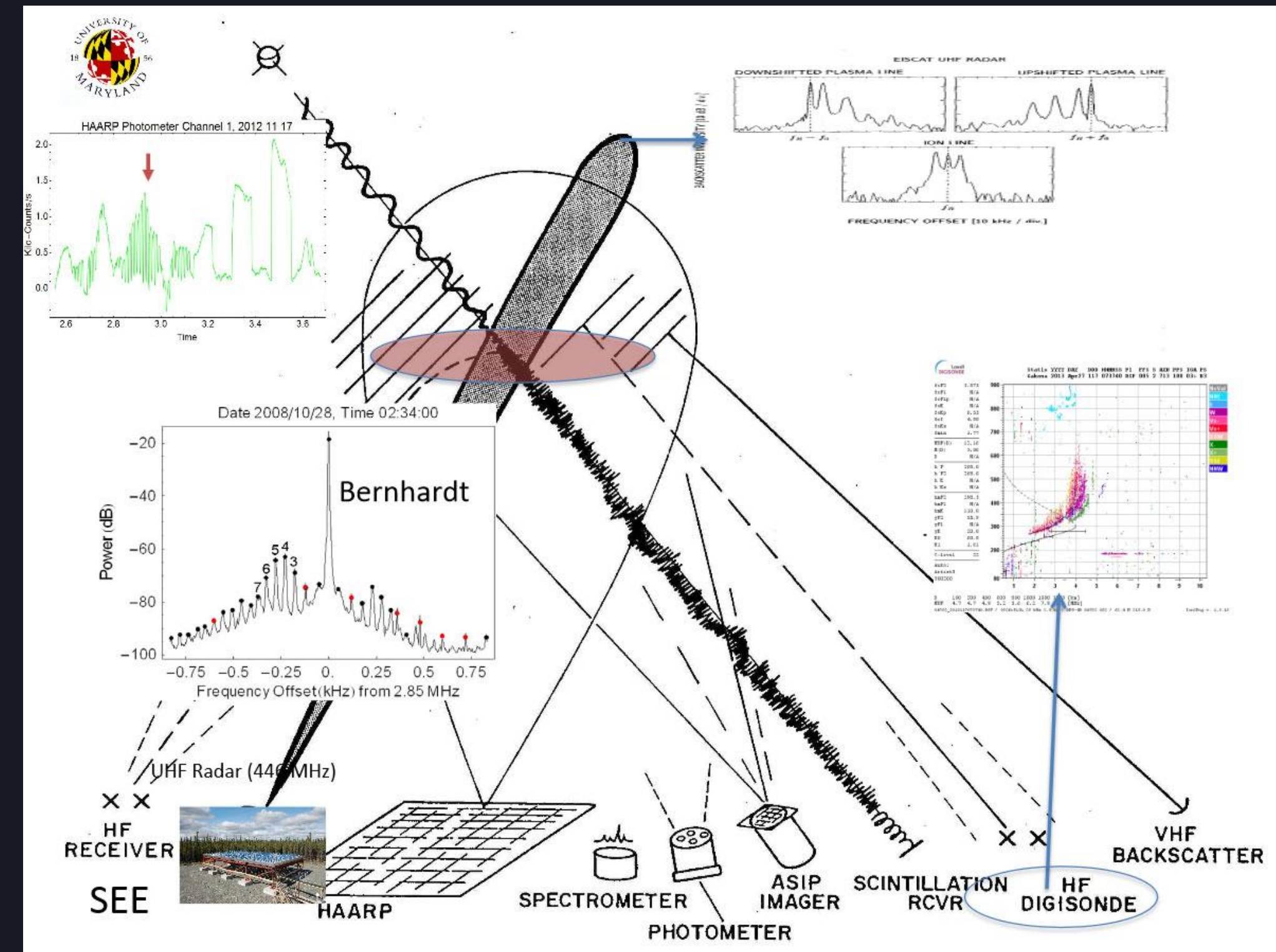
Creating Artificial Ionospheric Mirrors

Heating Plasma to Reflect Radio Signals



This invention relates to generation of a Artificial Ionospheric Mirror (AIM), or a plasma layer in the atmosphere. The AIM is used like the ionosphere to reflect RF energy over great distances. A tiltable AIM is created by a heater antenna controlled in phase and frequency. The heater antenna phase shift scans a beam to paint a plasma layer. Frequency is changed to refocus at continually higher altitudes to tilt the plasma layer.

PATENT OWNED BY
BAE SYSTEMS



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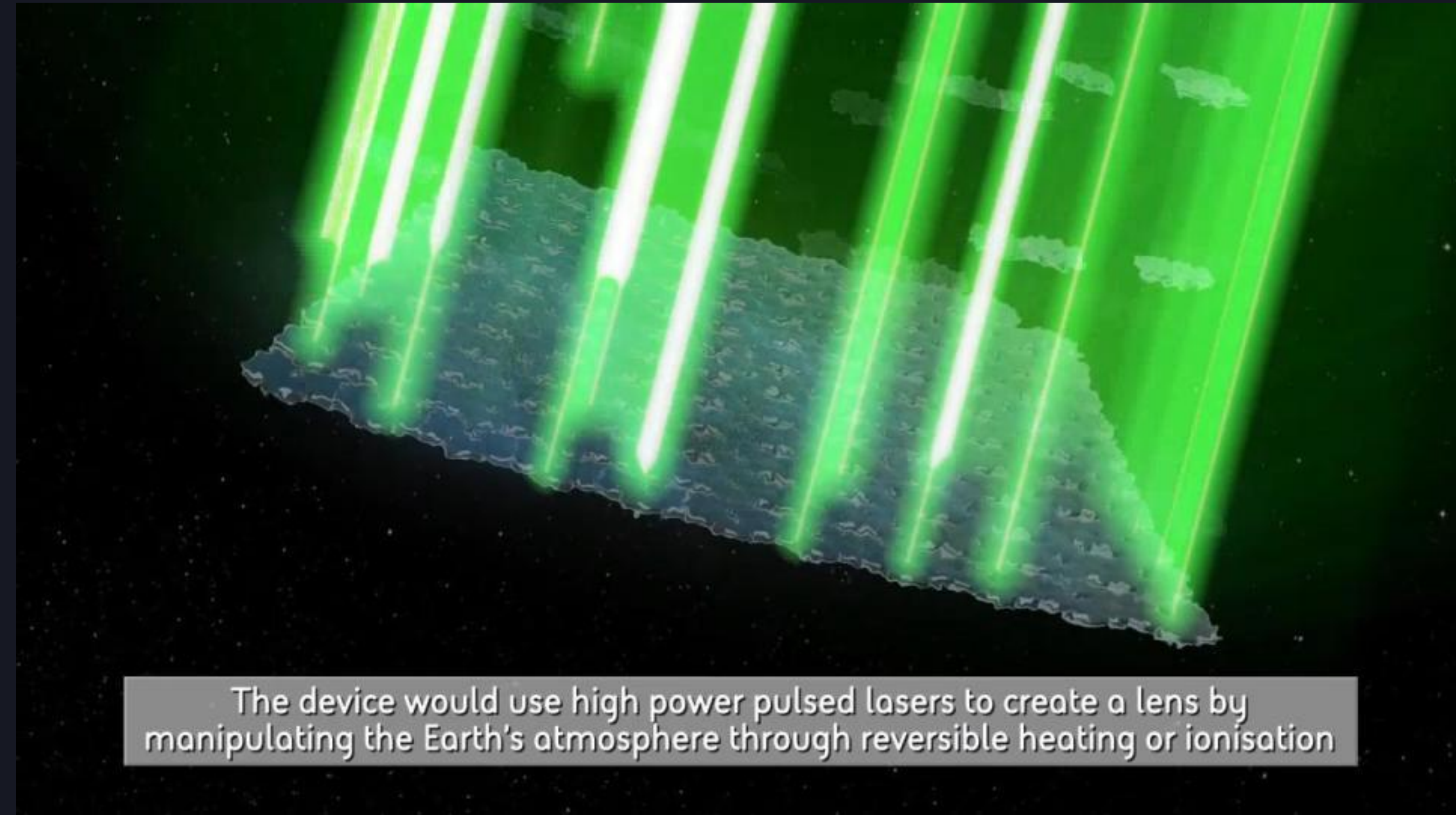


Creating Artificial Ionospheric Mirrors

Laser Developed Atmospheric Lens (LDAL)

THE FUTURE OF SPYING Earth's atmosphere can be turned into massive surveillance system using LASERS, scientists discover
British firm unveils research which shows that the atmosphere could be used to spy on ordinary citizens in unprecedented detail.

TECHNOLOGY OWNED BY BAE SYSTEMS



The device would use high power pulsed lasers to create a lens by manipulating the Earth's atmosphere through reversible heating or ionisation



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Creating Artificial Ionospheric Mirrors

Laser Developed Atmospheric Lens (LDAL)

Status

Atmospheric Lens Operational

and allow them to view battlefields more effectively from long distances to collect vital information



Probing Underground Structures

Non-invasive imaging of underground structure is important for the detection of hidden tunnels and other hazards, as well as resource exploration, mineral exploration, and environmental contamination problems.

The HAARP transmitter has the potential to be a valuable exploration tool in that it could generate electromagnetic fields that appeared locally as plane waves and could overcome the problems with low AMT signal levels and geologic noise.

AFRL-VS-TR-1999-1511

GSY-99/001

Imaging of Underground Structure Using HAARP

Randall L. Mackie

GSY-USA, Inc
2261 Market St, PMB 643
San Francisco, CA 94115-1600

February 1999

Final Report

Approved for Public Release; Distribution Unlimited



AIR FORCE RESEARCH LABORATORY
Space Vehicles Directorate
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AIR FORCE MATERIEL COMMAND
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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Probing Underground Structures

Some years ago, military-backed scientists at Alaska's High Frequency Active Auroral Research Program (HAARP) were able to map out tunnels at depths of a hundred feet or greater. Papadopoulos, for example, says he wants to do another round of subterranean surveillance experiments. "Personally, I believe it can reach 1,000 kilometers. [It \[currently\] can't reach Iran](#), if that's your question," one of those researchers, Dennis Papadopoulos told Danger Room. "[But if I put HAARP on a ship](#), or on an oil platform, who knows?" – [Wired Magazine](#)



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Creating Artificial Earthquakes

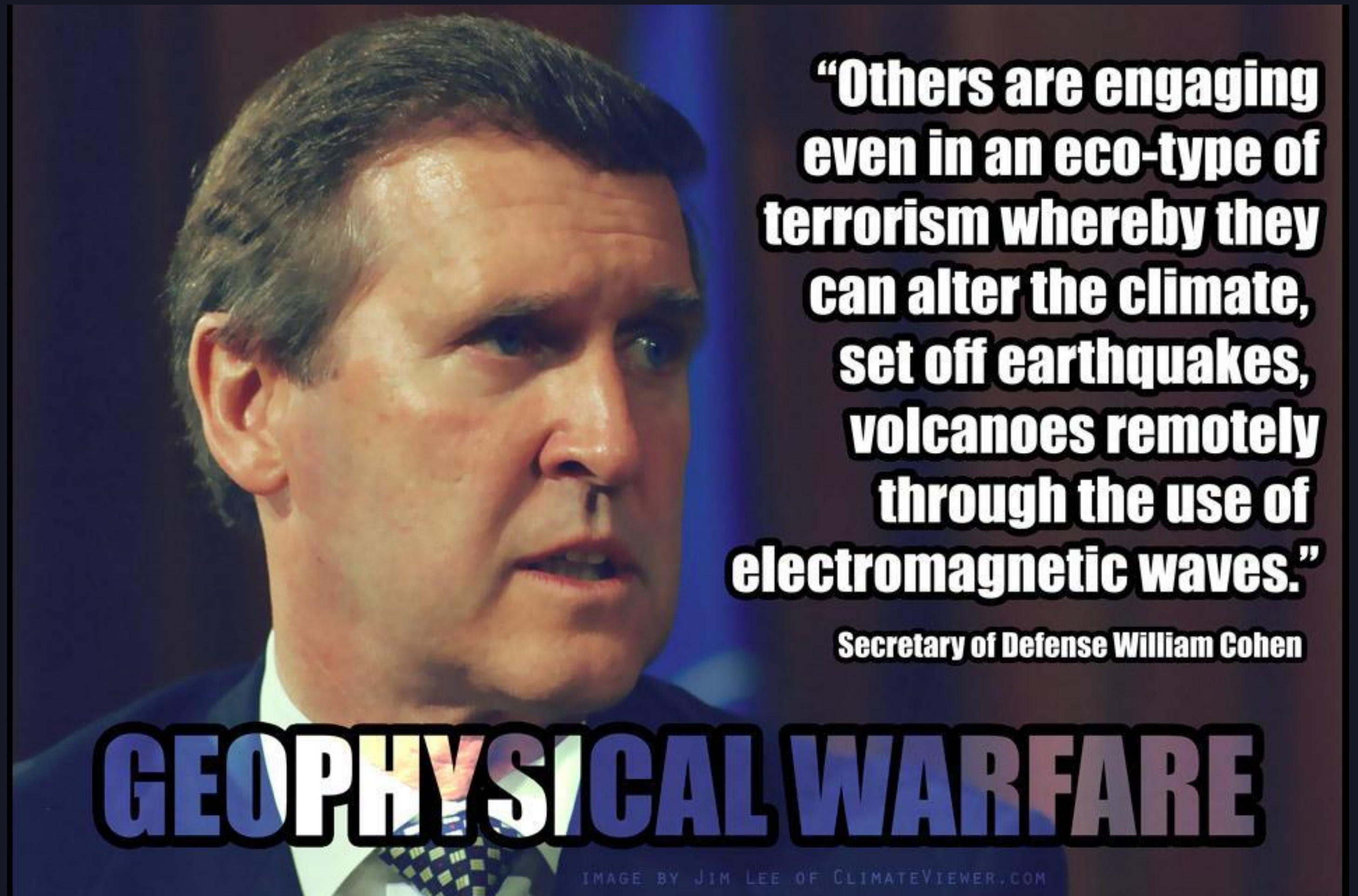
“Others are engaging even in an eco-type of terrorism whereby they can alter the climate, set off earthquakes, volcanoes remotely through the use of electromagnetic waves.

So there are plenty of ingenious minds out there that are at work finding ways in which they can wreak terror upon other nations. It's real, and that's the reason why we have to intensify our efforts, and that's why this is so important.”

Secretary of Defense William Cohen speaking at [“Terrorism, Weapons of Mass Destruction, and U.S. Strategy”](#)

Sam Nunn Policy Forum - April 28, 1997

University of Georgia, Athens, Georgia



IONOSPHERIC HEATERS

SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Creating Artificial Earthquakes

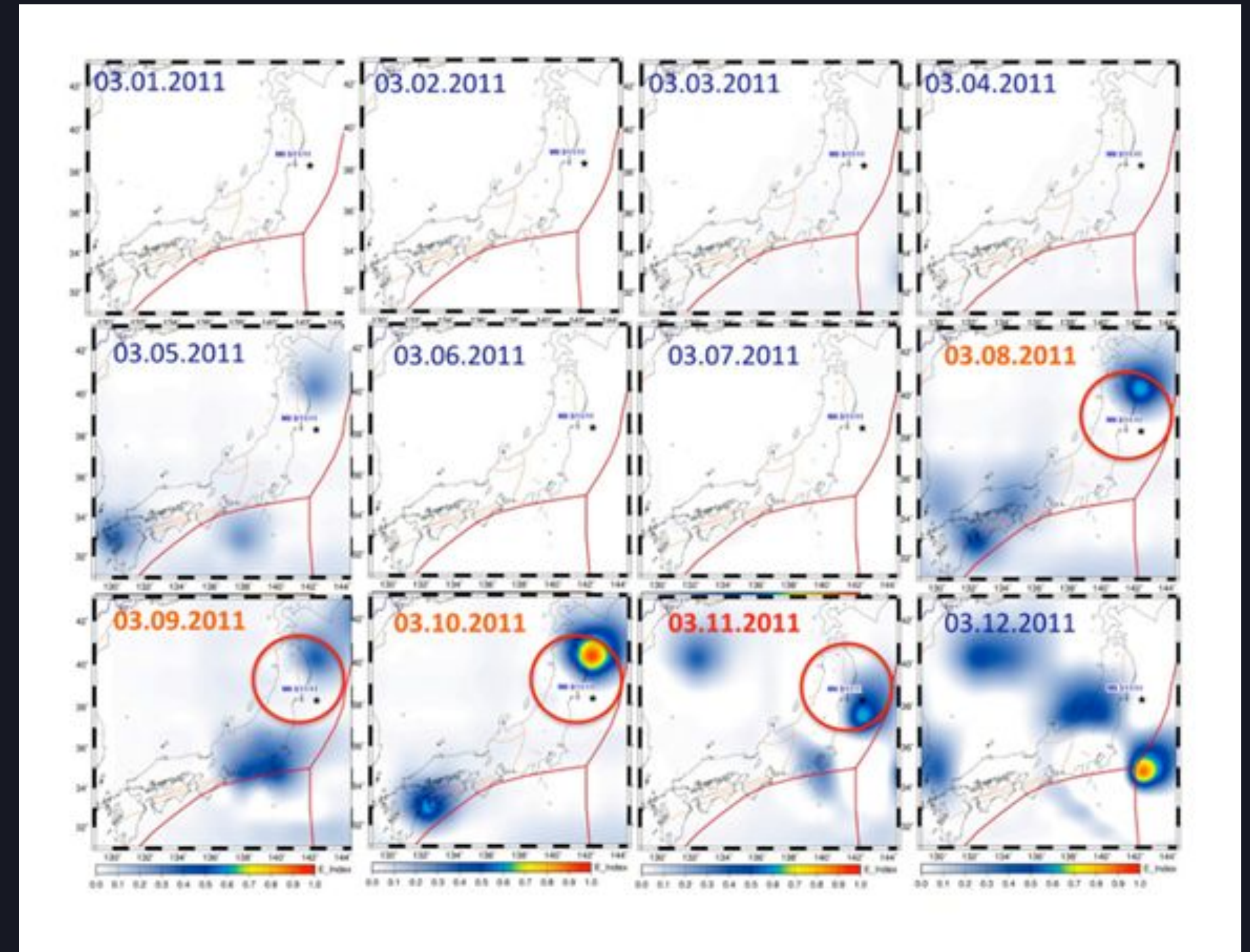
The Fukushima-Daiichi Meltdown and Magnitude 9 Earthquake

Atmosphere Above Japan Heated Rapidly Before M9

Earthquake

Dimitar Ouzounov at the NASA Goddard Space Flight Centre in Maryland and a few buddies present the data from the Great Tohoku earthquake which devastated Japan on 11 March. Their results, although preliminary, are eye-opening.

They say that before the M9 earthquake, the **total electron content of the ionosphere increased dramatically over the epicenter**, reaching a maximum three days before the quake struck.



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



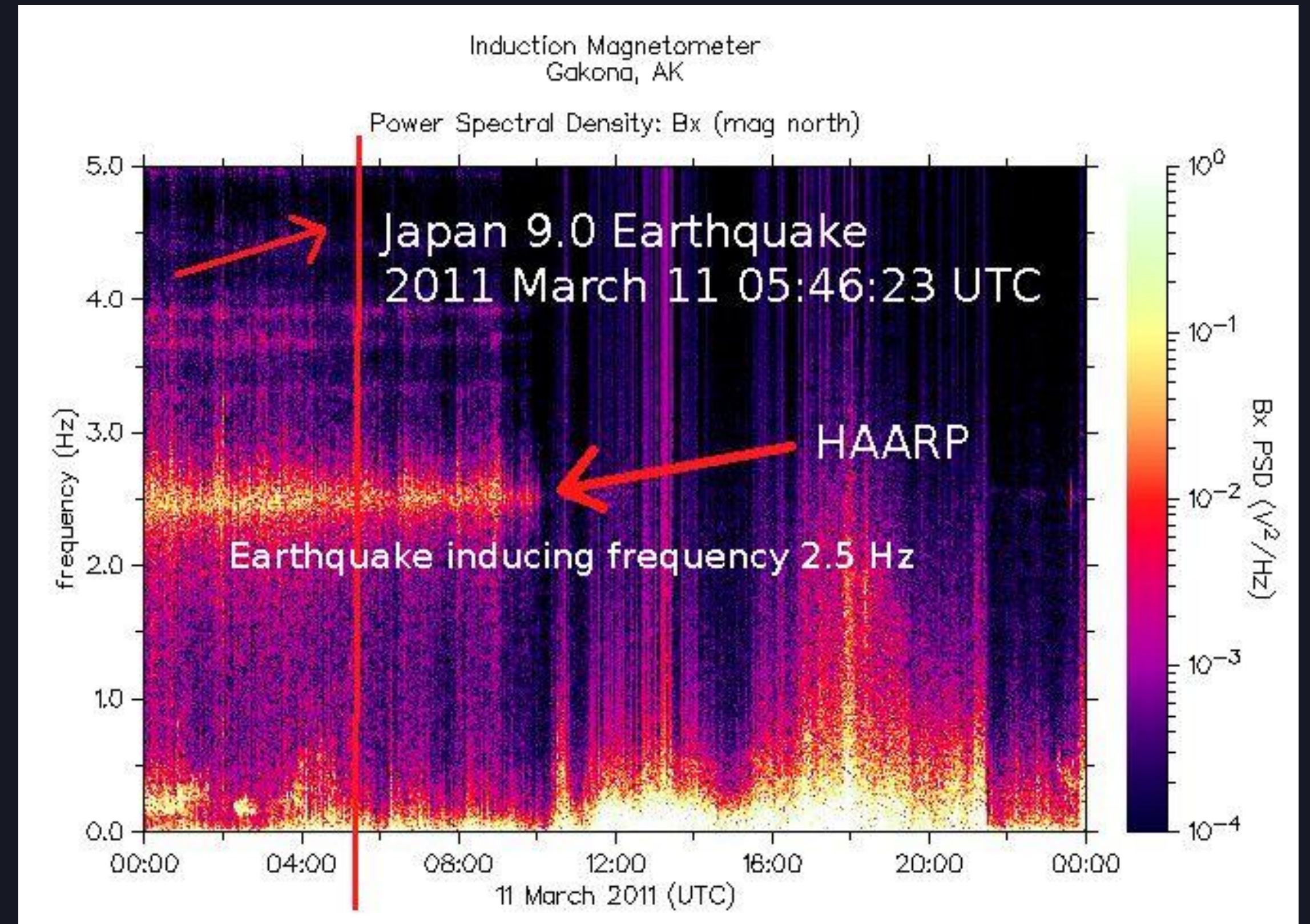
Creating Artificial Earthquakes

The Fukushima-Daiichi Meltdown and Magnitude 9 Earthquake



HAARP Ionospheric Heater Active During Japan's Earthquake

This image is from the U.S. Air Force's induction magnetometer at the HAARP facility in Gakona, AK. It shows a strong 2.5 Hz signal during the magnitude 9 earthquake, and had been on for days leading up to the quake.



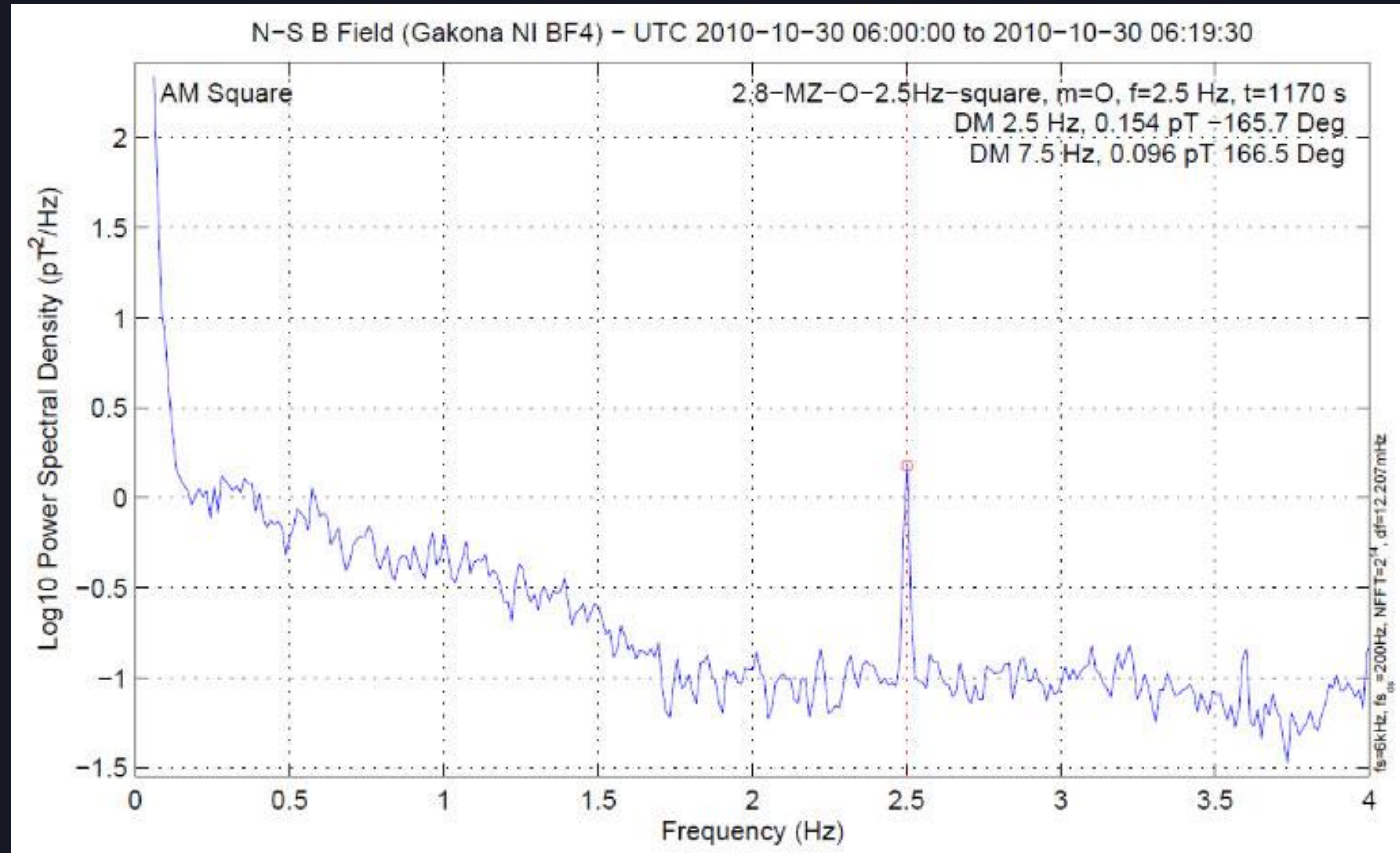
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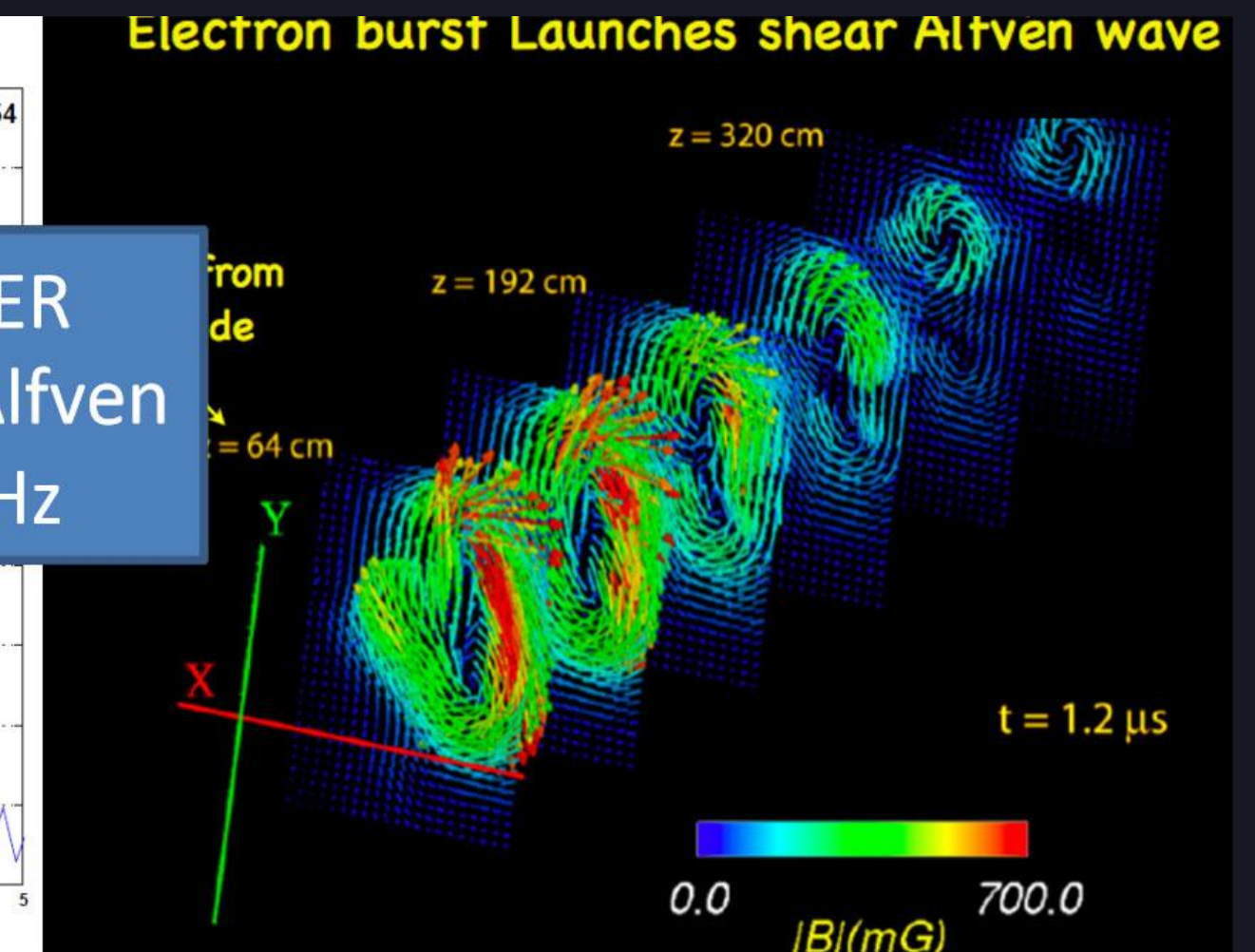
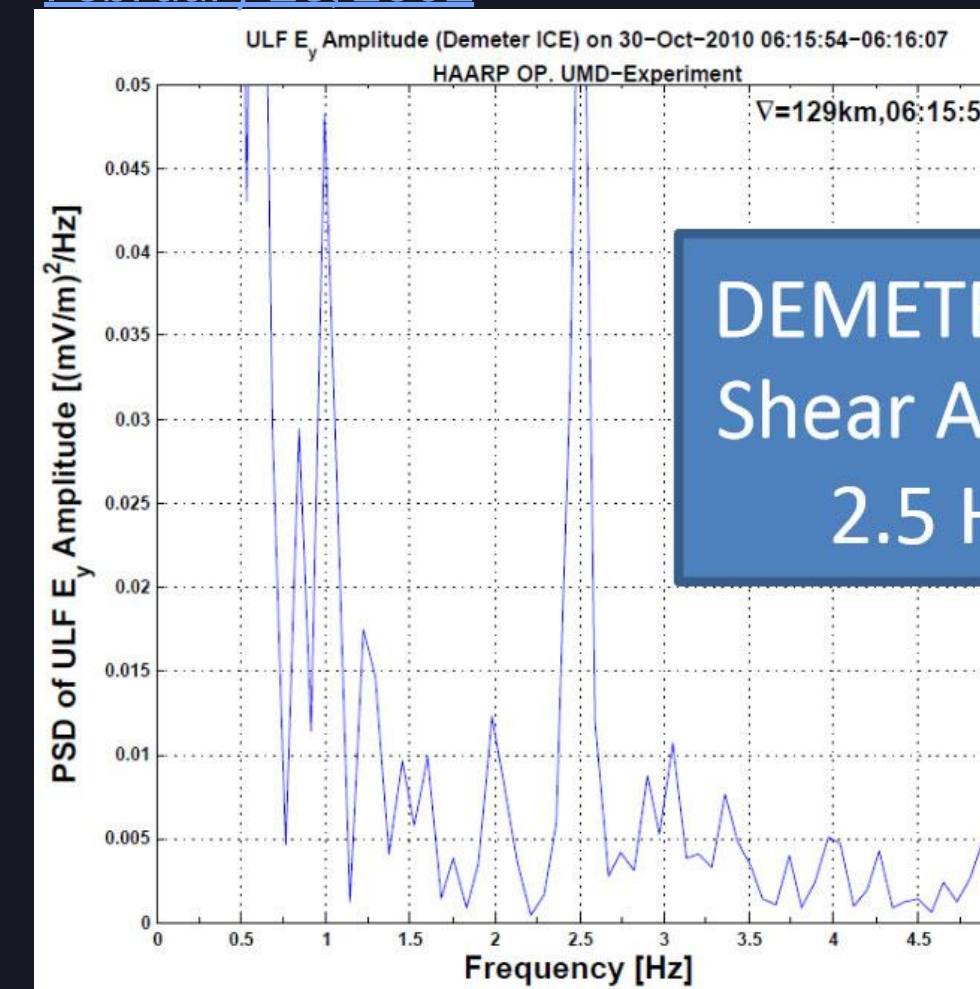
Creating Artificial Earthquakes

The Fukushima-Daiichi Meltdown and Magnitude 9 Earthquake



00000.0025:unid:none:unid:N0N - ACTIVE

Presumed, but not yet verified as a man-made signal. [Detected at various locations worldwide.](#) With amateur equipment, it is not easy to determine eventual frequency shifts, so signal is listed as a [2.5 Hz carrier](#). So far the signal is not connected with any known geophysical events. [Most likely not originating from HAARP](#) - Gakona in Alaska USA. They have little success, with the generation of ELF signals of reasonable strength, over anything then relative short distances. - [February 23, 2002](#)



This is the 2.5 Hz Shear Alfvén (Ultra-low Frequency) Wave created by HAARP, 2010



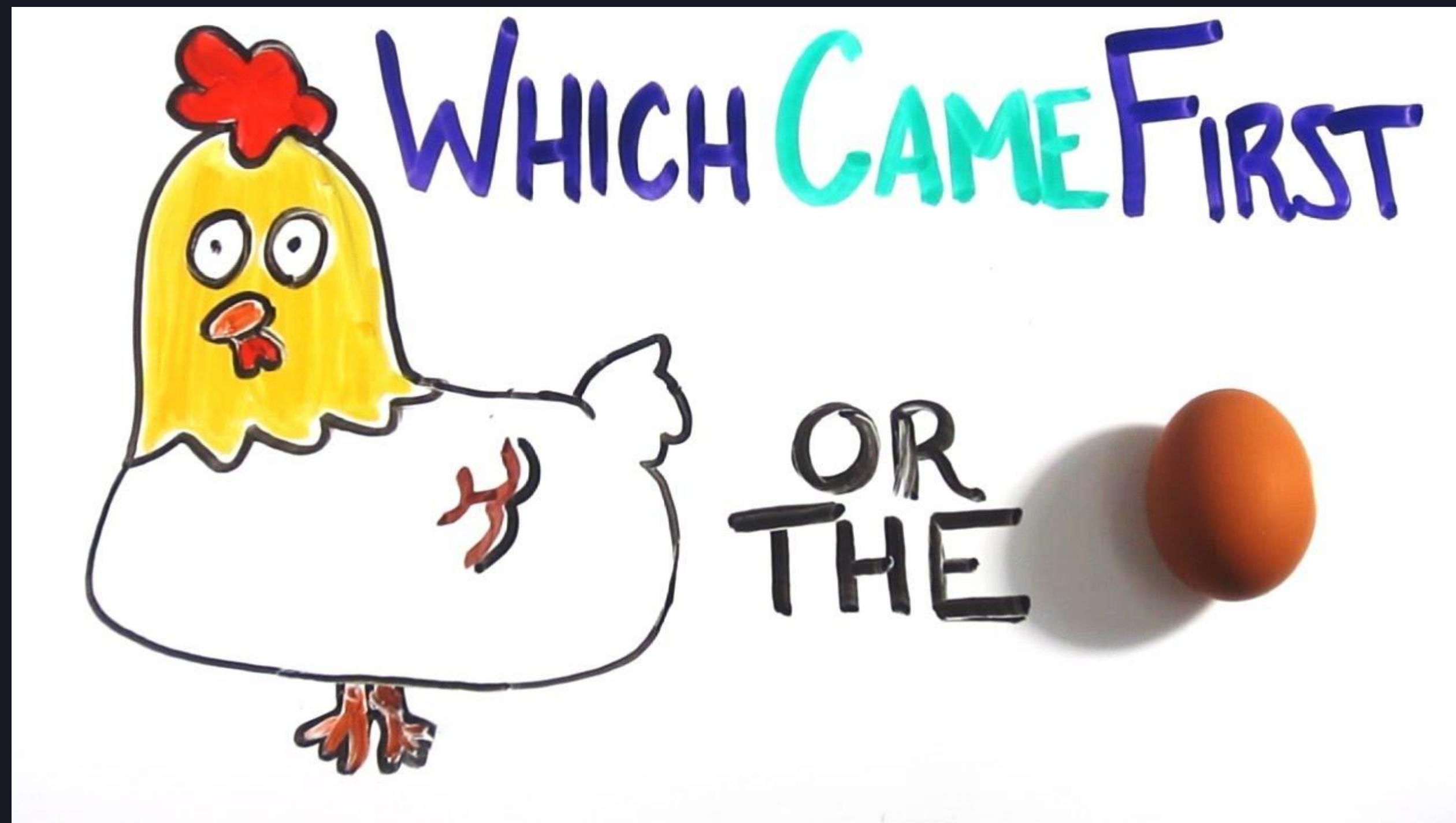
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Creating Artificial Earthquakes

The Fukushima-Daiichi Meltdown and Magnitude 9 Earthquake



WHICH CAME FIRST?

Did the Earth shifting and fracturing heat the ionosphere before the earthquake?

OR

Did an Ionospheric Heater heat the ionosphere which caused the earthquake?



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Project SECEDE Barium Clouds
 ENMOD Weather Warfare Ban
 Ukraine Burns Hole in Ionosphere (modifies weather)
 The Russian Woodpecker and Chernobyl Meltdown
 Project Waterhole (interrupting aurora)
 Project Cameo Barium Clouds
 Stanford Star Lab Ionospheric Modification
 Beam Experiment Aboard Rocket (BEAR)
 CRRES and the Arecibo Ionospheric Heater
 DoD Plans HAARP

Global Weather Control using Ionospheric Modification
Space Based Directed Energy Weapons / Satellites
Military used of ULF and ELF based Mind Control

1950-1970

1970-1990

1990-2020

THE FUTURE



Upper Atmospheric Nuclear Explosions
 Project Highwater
 Project West Ford (Needles)
 Lyndon Johnson on Space Control
 Sounding Rockets & Ion Clouds
 Project HARP Cannon
 Solar Powered Satellite (SPS)

Counterforce Weather Control: SPACECAST 2020
 High Frequency Active Auroral Research Program (HAARP)
 Test Technology Symposium 1997: Weather Modification
 Secretary of Defense William Cohen on Eco-Terrorism
 High Voltage Orbiting Long Tether (HiVOLT)
 Thunderstorm Solar Power Satellite
 Charged Aerosol Release Experiment (CARE)
 Project LUCY Transmitters & Noctilucent Clouds
 Climate Global Control Trading LLC
 The United States of America's Space Force



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE



Learn More

Welcome to Weather Modification History (WMH), the world's most comprehensive weather control archive with hundreds of verified historical facts, images, and videos. WMH's compelling evidence is easy to browse, exceedingly accurate, and encyclopedic in scope. This website was crafted by dedicated individuals to help you discern fact from fiction with meticulously organized research that offers the activist community a credible compendium.

Weather Modification History was created to inform the public of the extensive history of weather modification experiments. Our goal is to increase public awareness and debate about the moral and legal implications of today's multi-billion dollar weather control industry and the coming global governance of sunlight-blocking geoengineering schemes. This website will empower you to take action and raise awareness of the little known but lengthy history of weather modification and the men who dare attempt it.

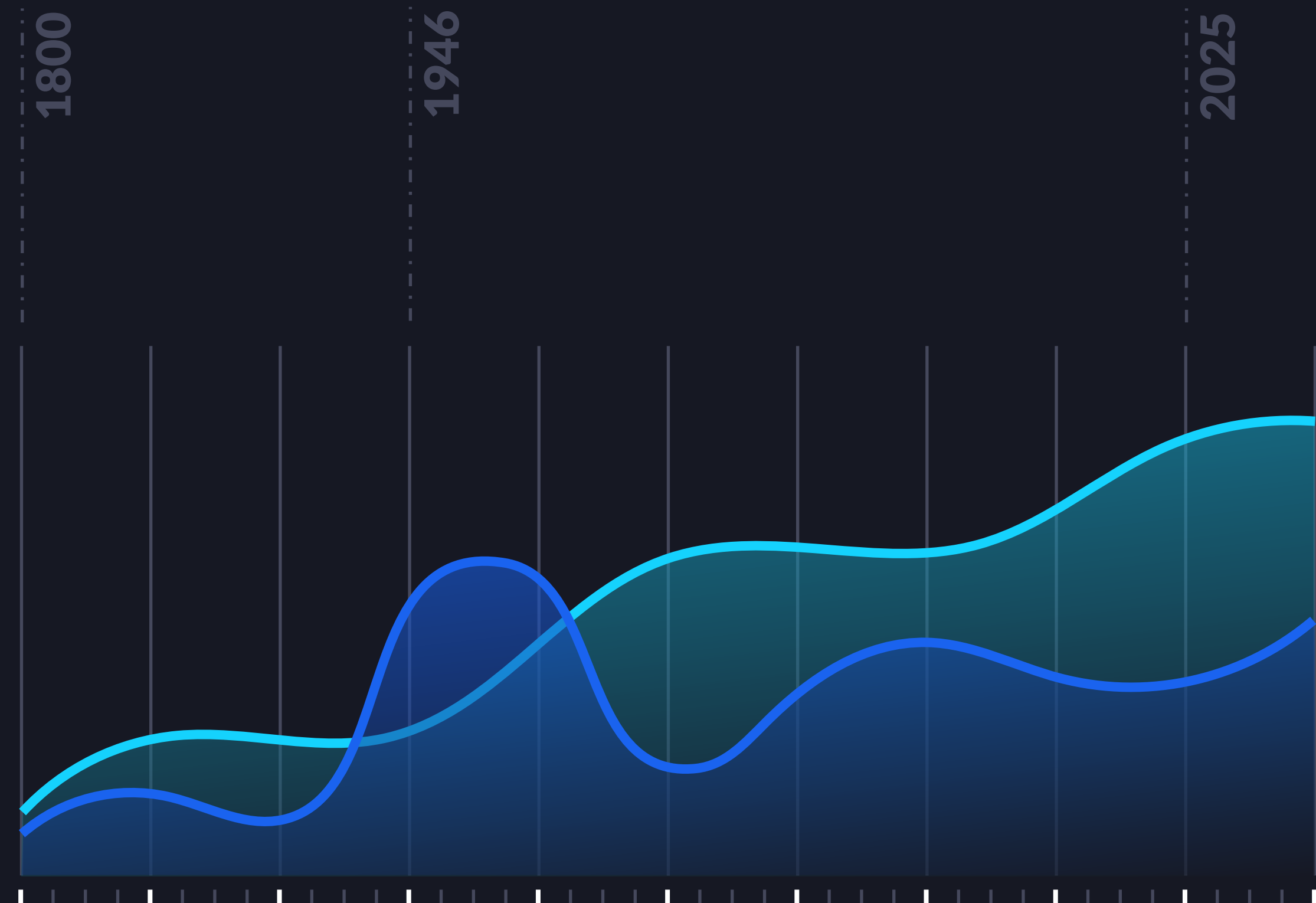
The [Star Wars section](#) on Weather Modification History

Also be sure to check out:

[HAARP and the Sky Heaters](#) on ClimateViewer News

[Articles on Ionospheric Heaters](#) on ClimateViewer News

[Atmospheric Sensors & EMF Sites](#) on ClimateViewer 3D



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SPACE WEATHER CONTROL AND GEOPHYSICAL WARFARE





CLIMATEVIEWER NEWS

BLOG

POLLUTION: Map polluted locations worldwide, gather facts on those affected, and use those facts to combat polluters' public relations (PR).

PRIVACY: Raise awareness of technology used to monitor, mock, and silence activists who dare attempt to combat climate change, today.

PROPAGANDA: Educate others on perception management, public relations, and other mass media mind-control techniques used against you, the reader.



CLIMATEVIEWER 3D

MAP / GLOBE

ClimateViewer 3D is your source for geophysical monitoring and personal education with live imagery on a gorgeous 3D globe or a mobile-friendly flat map. ClimateViewer features an encyclopedic list of exclusive maps resulting in thousands of hours of personal educational bliss not found anywhere else on the internet, let alone in one place.



WEATHERMODIFICATIONHISTORY

TIMELINE

The world's most comprehensive weather control archive with hundreds of verified historical facts, images, and videos. WMH's compelling evidence is easy to browse, exceedingly accurate, and encyclopedic in scope. This website was crafted by dedicated individuals to help you discern fact from fiction with meticulously organized research that offers the activist community a credible compendium.



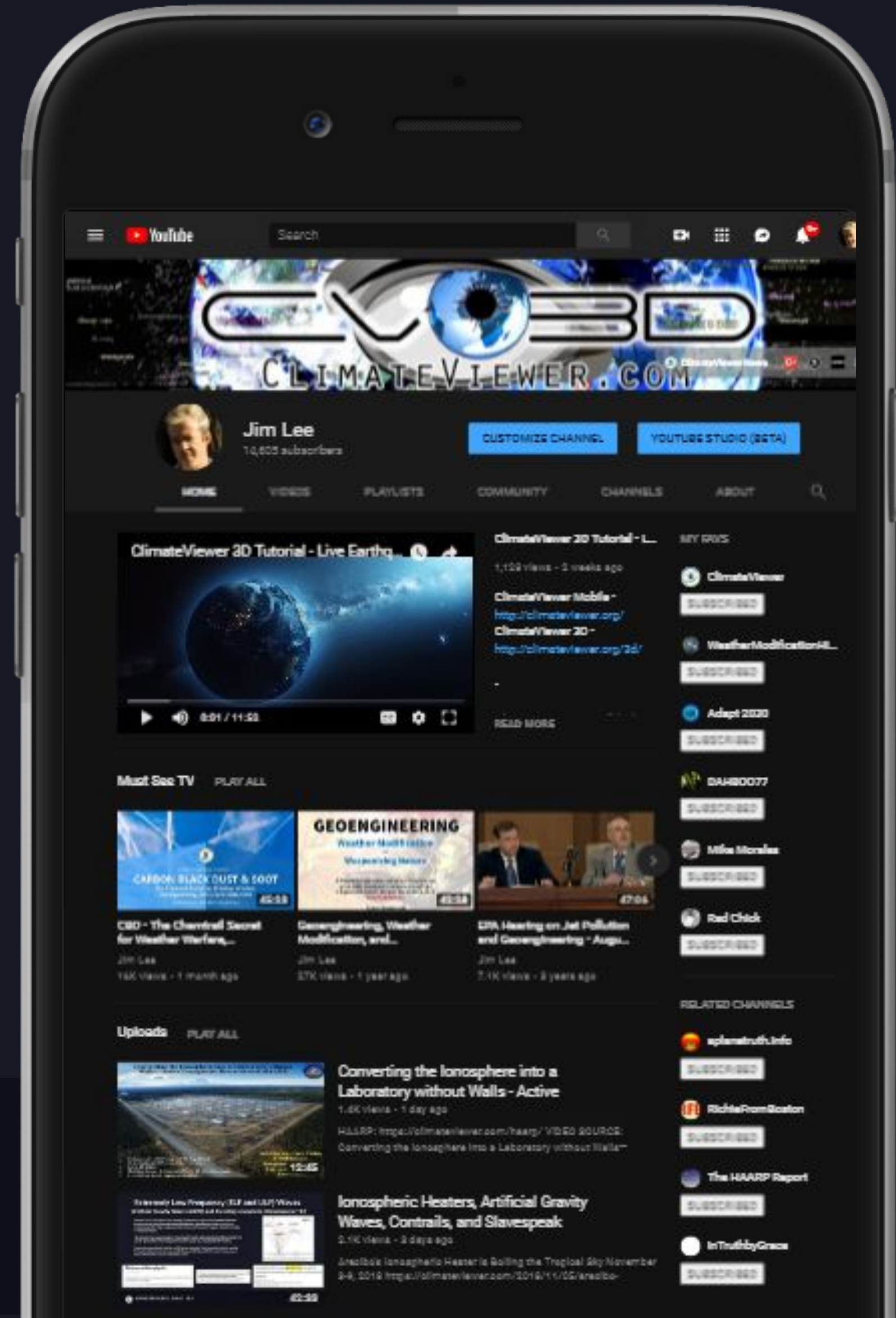
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I am James Franklin Lee Jr. (Jim Lee) and I help people understand complex ideas by creating maps, timelines, articles, and lectures. I am going to talk about Pollution, Privacy and Propaganda every chance I get because they interest me, affect us, and I care about our Planet. ClimateViewer News is my blog and the central location for all of my research.

I am forever a Boy Scout, lifetime artist, nocturnal programmer, music is my life, love is my religion, and I am the luckiest husband and father on Earth. I speak for the trees. I have a passion for mapping, magnets, and mysteries.

I have devoted the last seven years of my life to understanding and reporting the truth about the lengthy history of weather modification. I represented people like myself at the [EPA's hearing on aviation pollution](#) in August 2015, lectured at Ed Griffin's conference [Global Warming: An Inconvenient Lie](#) in December 2016, and my research has been referenced on many prominent websites, including the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Canadian Geophysical Union, MIT, Harvard, and the United Nations.

ABOUT JIM LEE

