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To: EDGES Group  
From: Alan E.E. Rogers  
Subject: Specifications for deployment of EDGES-3 at a new site

A deployment of EDGES-3 at a site in Northern Alaska and/or Ny-Alesund is under consideration for the summer of 2022. This potential deployment would probably be a 3-week visit to a potential site for which permission to use and travel to the site as well as some preparation of the site to have been made in advance. The following specifications are based data and simulations of scatter from micrometeorites in EDGES memos 53, 54, 310 and 311 and ground plane irregularities along with scatter from nearby objects in memos 337, 338, 340, 341, 342, 343, 345, 353, 356, 348, 355, 357, 360, 362, 378 and 379.

Site requirements:

1. Site in Northern hemisphere
2. Less than 200 transmitters in the 50 – 120 MHz band within 2000 km of the site with more than 50 km to the nearest transmitter in the 50 – 120 MHz band
3. maximum horizon, over a significant fraction of the sky, should have elevation less than 15 degrees
4. minimum distance from buildings with unfiltered computer equipment LED lights etc. 500m to prevent RFI in the 50 -120 MHz band from switching circuitry
5. maximum ground tilt of less than 1 degree over an area of 100x100m surrounding the antenna
6. maximum height of object within 50m of antenna 1m
7. maximum height of object within 100m of antenna 5m and no wire fence within 100m of antenna
8. maximum height of object within 200m of antenna 10m
9. Flattened area of at least 30x30m to within +/- 5 cm peak deviation from flatness and clear of bushes, mounds of gravel or any objects higher than 10 cm out to 25m from the center of 30x30m area
10. 30x30m for antenna should be even enough so that the wire grid can be tensioned to lay on ground as in memo 310 Figure 1 without separation from the ground of more than 1 cm.
11. food/gas and lodging (with internet) within 120 miles and road or boat access to within 100m of antenna

Notes:

- a) Occasional RFI in the 50 -120 band from passing vehicles, handheld, aircraft and marine communications is acceptable.
- b) The requirements in #2 is to prevent the reflections of transmissions, primarily FM radio, from micrometeorites entering the atmosphere at 100 km altitude. A radius of 2000 km around the EDGES antenna is needed in order to prevent mutual visibility of the EDGES

antenna and the FM radio station to the ionized region generated by the micrometeorites.  
See memo 310.

Items to be brought along to the site for 3-week observation session and removed at end of session:

EDGES-3 antenna with electronics inside, antenna frame, 360 pegs or pins for meandering wire ground plane, 5.5 km 18 or 14 (TBD) awg wire, 50m pwr cable, fibers, batteries, solar panel for battery charging, laptop, tools