

We thank the referees for their comments.

The line numbers refer to the revised text, tracked changes, submitted here.

In response to referee 1 we have incorporated the reviewer's suggested description of the Arecibo heater status in the first paragraph of the revised section 7 (lines 390-399).

In the section on conspiracy theories where HAARP is mentioned, we have re-written that section in a more neutral way, but we did not include the referee's suggested description of HAARP since we find the funding details of other facilities not relevant for this paper (lines 417-423).

In response to referee 2, we have incorporated all suggestions made.

Line 36: We believe this form of reference to a whole journal issue is correct.

Dipl. Phys. is now explained in parentheses.

The use of "guy" is indeed correct. Among other meanings it includes: "A rope, cord, or cable used to steady, guide, or secure something. tr.v. gayed, guy-ing, **guys** To steady, guide, or secure with a rope, cord, or cable. [Partly from Middle English gie, guide, **guy** (from Old French guie, from guier, to guide; see weid- in Indo-European roots) (www.thefreedictionary.com)

Line 259: The units of the frequency range were omitted. They have now been inserted.

Detailed changes:

Oxford spelling has been chosen and made consistent.

Section numbering has been changed so that the introduction is section 1 and subsequent sections numbers are incremented by 1.

The abbreviation "IS" replaces "incoherent scatter" in most places. In addition, to make the text more consistent the abbreviation ISR has been replaced with "IS radar".

Lines 53-54: An explanation of the degree "Dipl. Phys." is given in brackets.

Lines 71-72 and references (line 521-522): The reference to Wannberg (2021) is updated to the published version in 2022.

Fig. 2 caption (line 117) "(small red crosses)" is added to the description.

Line 195: The relevant height region is given.

Line 221: One more person, Cesar La Hoz, is added to the list of important collaborators.

Line 261: "around" which is redundant is removed.

Line 263: "MHz" has been added.

Line 403: One instance of "users" has been changed to "scientists"

Line 405: change to “peer-review programme” instead of “system”