2nd Review of "Influence of different types of ionospheric disturbances on GPS signals at polar latitudes"

Most of the reviewers' comments have been adequately answered, but there are some remaining issues that need to be solved.

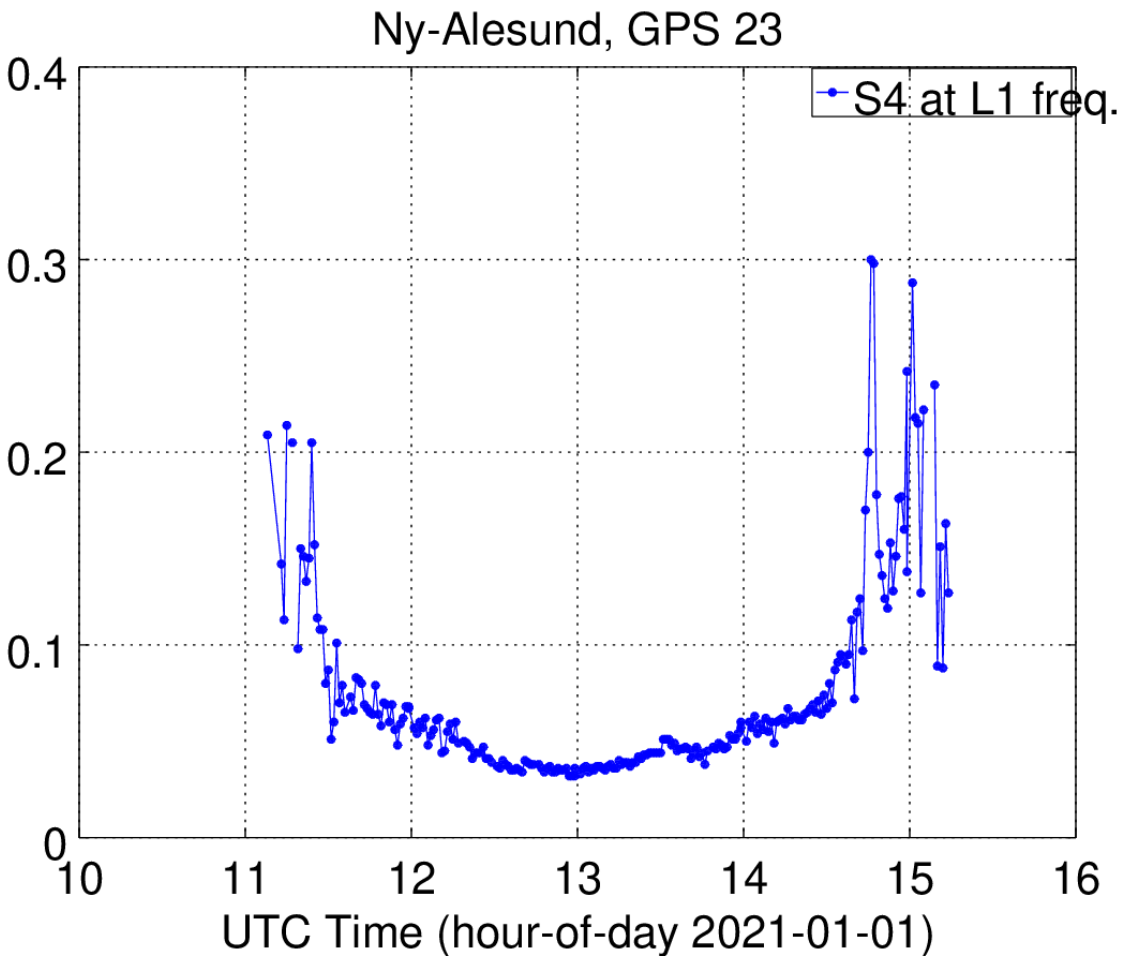
On lines 168-170 you write:
"The growth of the phase index was seen not during all period of Ne enhancement (100-200 km) measured by the EISCAT radar. Possibly this is due to the field of view of EISCAT radar not coincides with the field of view of GPS receivers. So for 170 small-scale and medium-scale Ne increase is not always correlate with phase index growth."

And on lines 190 - 192 you write:
"We have plotted ionosphere pierce points (IPP) to show how it overlaps with the EISCAT 42m and all-sky camera field of view (Figure 4). For large-scale disturbances (hundreds of km) which were considered in this paper this overlap does not matter. Always some GPS satellites can be used to register the ionosphere disturbance."

This seems like a slight contradiction to me. Maybe I have just misunderstood something?
In the second piece of text you say that there are always some GPS satellites that can register the disturbance, but in the first piece of text you say that there are no GPS satellites that register the disturbance. Please clarify.

Lines 307 - 309:
"Possibly low values of amplitude scintillations at high latitudes are caused by the low elevation angles of GPS satellites at these regions. Since irregularities producing amplitude scintillations can be formed in
the field-aligned direction. But this hypothesis needs to be tested."

I understand what you are saying, but I think your hypothesis will quickly run into problems.
Plot the S4 index as a function of elevation, and you will typically see increased values at low elevations.
See for example the plot on the following page, which is a time series of S4 for an entire pass of a satellite observed by a scintillation receiver at Ny-Ålesund.
The start and end of the time series, which are at the lowest elevation, have the highest values.
You will need to explain how this can be consistent with your hypothesis.



According to scintillation theory, one important factor for the amplitude of S4 is the distance from the irregularity layer to the observer.
See for example Eq. 4 and 6 and associated paper text in "On the Relationship Between the Rate of Change of Total Electron Content Index (ROTI), Irregularity Strength (CkL), and the Scintillation Index (S4)" by Carrano et al.
(https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2018JA026353)
This is an important part of the explanation of the differences between low latitude and high latitude scintillation, as the generating mechanism are different (including being typically located at different altitudes).