I would like to thank the author for their thoughtful replies to my inquiries and suggestions. I think this manuscript has benefited from the review process.

Before recommending this article for publication, as a fellow Norwegian I wish to make a few points clear about conductance differences between the dayside and nightside at high latitudes.

The figure below shows statistics of Pedersen conductances during the months of November, December, and January derived from EISCAT Svalbard ISR measurements (top panel) and the Tromsø UHF radar (bottom panel) between 1998 and the beginning of 2024. This database was compiled by a Finnish researcher and used as the basis for the work performed by Juusola et al (2025); it is used with permission from those authors.

The vertical lines indicate the mean and median conductances (see legend) on the dayside and nightside. The mean and median conductance during winter months is systematically higher on the dayside than on the nightside within the polar cap / cusp where Svalbard is located, i.e., within the range of latitudes shown in Figure 1. This pattern is flipped at Tromsø's latitude, with mean and median conductances higher on the nightside due to the clear auroral bulge (though the magnetic latitude of the Tromsø UHF radar, approximately 66.5°, is below the lowest latitude shown in the author's Figure 1).

All of this goes to say that poleward of the auroral oval (i.e., cusp and polar cap), and certainly equatorward, the dayside conductance is generally larger than on the nightside, also during winter. Within the auroral oval, I concede that the picture is different. (But again, it is worth noting that the Tromsø UHF radar lies equatorward

Winter
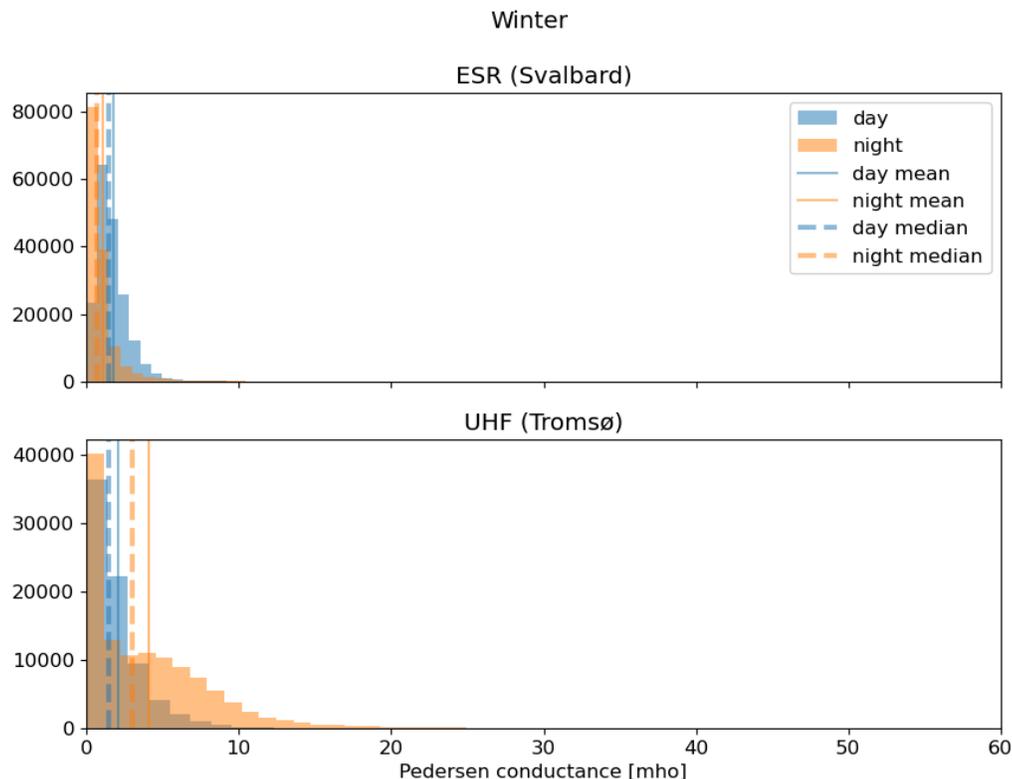
of the low-latitude boundary of the author's Figure 1.)

The author may care to note that the Moen and Brekke equations, when corrected for the fact that the Earth is round and not flat, in fact predict a solar EUV Pedersen conductance of 2.5 mho for a solar zenith angle (sza) of 90°, see Figure 2 in Laundal et al (2022) as well as Juusola et al (2025). Solar EUV conductance is non-zero even for szas up to 100°, because of the ionosphere's height over Earth's surface. The author should be aware that they are using the uncorrected, flat-Earth Moen and Brekke equations, which get the solar EUV

conductances wrong for large szas (i.e., during winter). The explanation is that the Sun may indeed be below the horizon on Earth, but is not necessarily below the horizon at an altitude of 100+ km. The conductance is still undoubtedly lowest during winter, but it is not as drastic as depicted in panel f of the author's Figure 1.

I will therefore respectfully correct the author's statement that the Norwegians who dwell at high latitudes unanimously agree that "there is, on average, no (<1 S) conductance due to solar EUV-induced photoionization poleward of 68 degrees MLAT in the northern hemisphere." If one believes that the Earth is round and that the Moen and Brekke study is correct, the solar EUV Pedersen conductance can be non-zero during winter as far poleward as Svalbard (75° MLat), and specifically is about 1 S for sza = 100°. Besides the analytical formula I have pointed to, this conclusion can also be reached using ESR measurements themselves. I will be happy to provide a plot if the author wishes.

I leave it up to the editor and the author to decide whether this point ought to be corrected in the manuscript. I think if the author is striving to be in line with what is currently known, it may well be worth updating Figure 1f and slightly modifying the text according to what is shown. This exercise would not change the main results of the study, but may be instructive for the reader.