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ULF activity along SEGMA array during low solar wind density conditions

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We present the results of an analysis of the pulsation activity observed on the ground during variable solar wind conditions. Recently, it was suggested (Heilig et al., 2010) that low solar wind densities cause on the ground a drop of pulsation activity, regardless of cone angle conditions favorable to the transmission of upstream waves through the subsolar magnetopause. Our results seem to confirm that, during time intervals characterized by usual solar wind speed values, there is a threshold for the density below which ground pulsation activity almost disappears. Indeed, based on the geomagnetic field measurements conducted along the low latitude magnetic array SEGMA, the study shows that, for solar wind speed of ∼450-350 km/s, the activity was negligible when the solar wind density was lower than ∼2 cm-3, even for favorable cone angle conditions. On the contrary, despite the low solar wind density and independently on the cone angle, the pulsation activity was always enhanced when the solar wind speed was higher than ∼500 km/s.