

Supplementary Material to the article

“Channeling of the auroral kilometer radiation during geomagnetic disturbances”

Figure S1 shows the results of measurements of the solar wind magnetic field obtained on the ACE satellite, which is located at the first Lagrange point L1. The results of measurements in the solar wind are shifted in time in such a way that ones refer to the position of the subsolar point of shock wave before the magnetopause, that is, the time of solar wind approach to the shock wave was added to the measurement time. The upper panel shows the amplitude of the solar wind magnetic field, the lower panel shows the magnetic field components in Geocentric Solar Magnetospheric (GSM) coordinate system (B_x , B_y , B_z). The amplitude of the magnetic field gradually increases with time. B_x and B_z components change in a similar way, becoming either negative or positive. The B_y component becomes negative at 06:30 UT, jumps between 9 and 10 UT, and after 10 UT it becomes stably negative, while the B_x and B_z components of the solar wind magnetic field become stably positive.

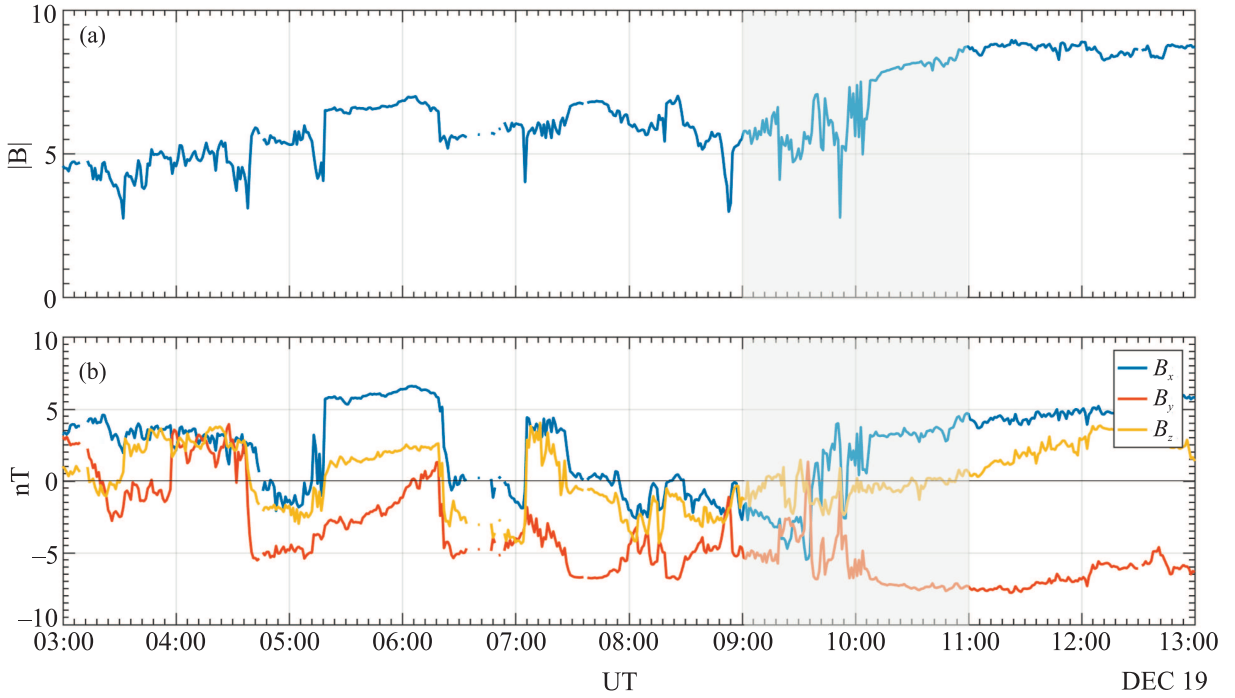


Fig. S1. Results of measurements in the solar wind of the magnetic field module (upper panel) and its component B_x , B_y , B_z in GSM coordinates (lower panel). The time of the AKR observation on the ERG and WIND satellites is marked in gray

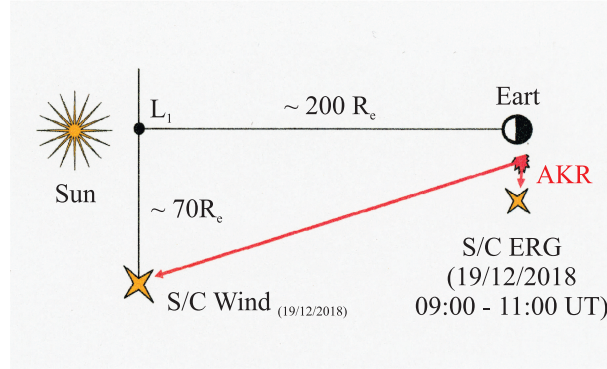


Fig. S2. Schematic representation of the relative position of the ERG, WIND satellites and the AKR source during simultaneous observations on December 19, 2018 (not to scale)

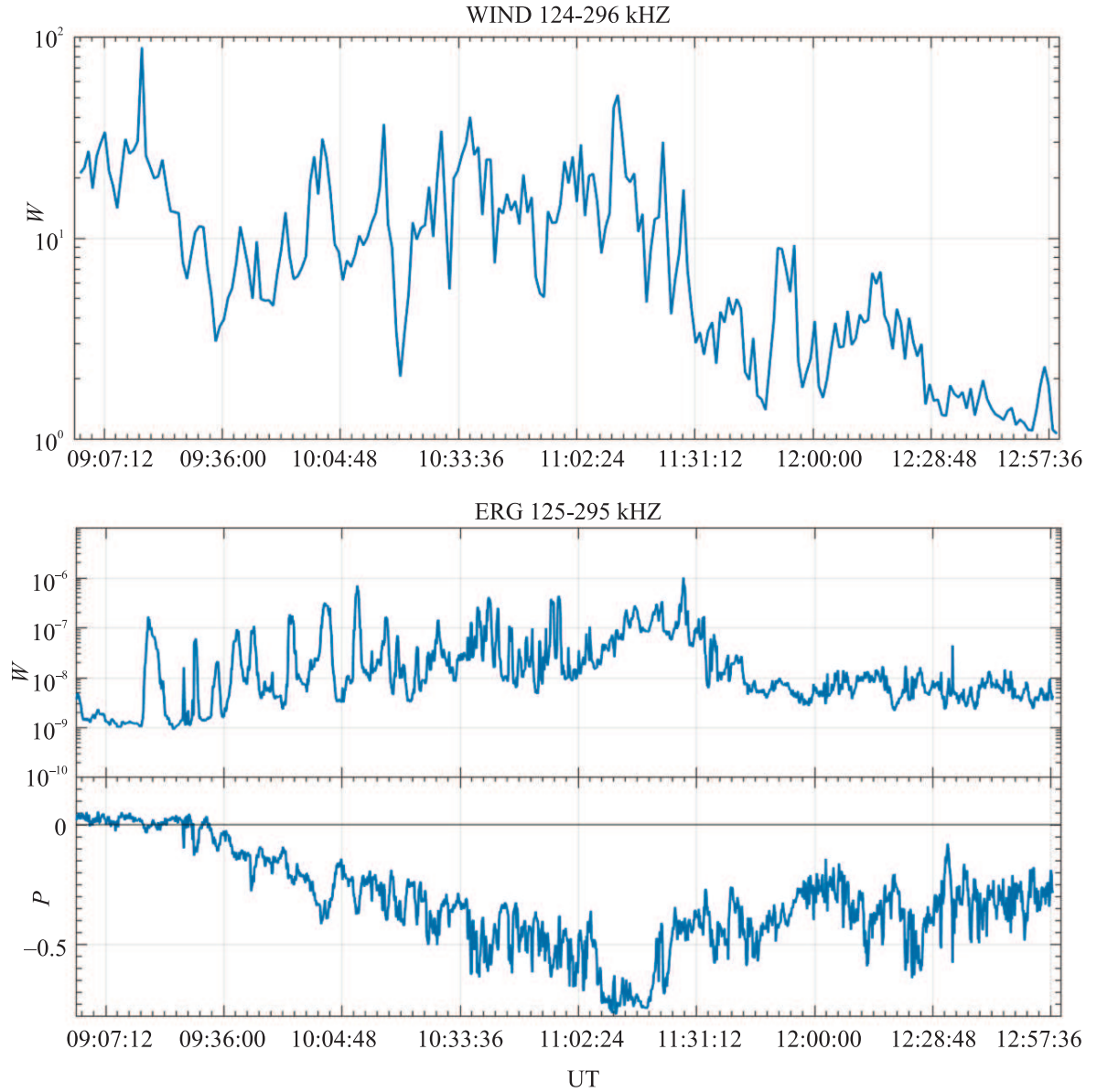


Fig. S3. Results of simultaneous measurements of radiation intensity on the WIND satellite (upper panel), on the ERG satellite (middle panel) and polarization of radiation on the ERG satellite (lower panel)