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# Large pulses of solar wind dynamic pressure and the appearance of intense GICs

**Irina Despirak**[1] , Pavel Setsko[1] , Andris Lubchich[1] , Yaroslav Sakharov[1] , Vasiliy Selivanov[2]

[1] Polar Geophysical Institute, Apatity, Russia
[2] Northern Energetics Research Centre KSC RAS, Apatity, Russia

despirak@gmail.com

One complex event of space weather was analyzed, when some large-amplitude changes in the dynamic pressure of the solar wind were registered during magnetic storm, connected with interplanetary coronal mass ejection (ICME). Four pulses of dynamic pressure of large amplitude (~ 20 nPa) were recorded during the SHEATH region at the period from 20 to 22 UT on November 3 and at ~01 UT on November 4 and one strong pulse of the dynamic pressure (~30 nPa) was during magnetic cloud (MC) at ~ 09 UT on November 4, 2021. According to IMAGE and SuperMAG magnetometers data, we detected four consecutive substorms and one supersubstorm (SSS) caused these pressure pulses. The complex space weather episode has been divided into three events registered at the midnight, morning and day sectors, all events were associated with jumps of dynamic pressure (~20-30 nPa) of the solar wind. During first and second events (at the midnight and early morning sectors) the source of the GIC was substorm development; GIC events occurred simultaneously with poleward expansions of the westward electrojet during the expansion phase of substorms. During third event (at the late morning and day sectors) the sources of the GICs were Pi3 geomagnetic pulsations and the sharp intensifications of the eastward electrojet connected to development of supersubstorm and intense substorms at the night side.