



## **The Relation between Strong Geomagnetic Perturbations, Behavior of the Stratospheric Polar Vortex and Daily NAO Index**

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The behavior of the stratospheric polar vortex and daily NAO index was investigated during 30 strong geomagnetic storms ( $A_p \geq 60$ ,  $Dst \leq -100$  nT), which occurred in the winter months (January-March) of 1970-2004. The analysis showed that about 4 days after the storm onset the intensification of the stratospheric polar vortex at 30 hPa took place. 2-4 days after the polar vortex intensification the increase of daily NAO index was observed in majority of the cases. Magnitude of such increase depended on the intensity and duration of geomagnetic storm. Furthermore, the analysis indicated that the level of the stratosphere-troposphere coupling was affected by the distribution of pressure systems occurring in the Euro-Atlantic region at the time of geomagnetic storm onset. In the case of blocking events, the influence of geomagnetic activity was restricted to stratosphere only.