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Possibilities for selected space weather and atmospheric studies in JEM-EUSO project?

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The main scientific task of JEM-EUSO is to observe the ultra high energy cosmic rays by looking the atmosphere from space. On one hand the detailed description and study of various sources of the background is important (e.g. Bertaina et al., 2014). On the other hand, the study of selected magnetospheric and ionospheric processes leading to temporal and spatial variability of UV on the orbit where JEM-EUSO is supposed to be situated, could be a useful by-product of the main task of the project. We summarize selected processes connected with atmospheric electricity and with energetic particles which can cause the events as TLE, TGE and TGFs (recently observed on mountains too). Our groups (in CBK Warsaw, in IEP Kosice) have long track of experience with measurements of waves and particles for magnetospheric/ionospheric research. The JEM-EUSO, if the experiment is added by very minor monitoring-type of suprathreshold/energetic particle device, and coordinated with other satellite measurements and with the ground based observations, may be of relevance for space weather studies related to the effects in the chain magnetosphere/ionosphere/atmosphere. We discuss such possibilities.

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