MAJOR GEOMAGNETIC STORMS AND COSMIC RAYS, 2. METHODS OF CR USING FOR FORECASTING.

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We present developing of methods (e.g., Dorman et al., 1995, 1999) to forecast on the basis of NM hourly on-line data (as well as on-line muon telescopes hourly data from different directions) geomagnetic storms of scales G5 (3-hour index of geomagnetic activity Kp=9), G4 (Kp=8) and G3 (Kp=7) (according to NOAA Space Weather Scales). These geomagnetic storms are dangerous for people technology and health (influence on power systems, on spacecraft operations, on HF radio-communications and others). We show that for especially dangerous geomagnetic storms can be used global-spectrographic method if on-line will be available 35-40 NM and muon telescopes. In this case for each hour can be determined CR anisotropy vector, and the specifically behavior of this vector before SC of geomagnetic storms G5, G4 or G3 (according to NOAA Space Weather Scales) can be used as important factor for forecast. The second factor what can be used for SC forecast is specifically behavior of CR density (CR intensity) for about 30-15 hours before SC (caused mainly by galactic CR particles acceleration during interaction with shock wave moved from the Sun). We demonstrate developing methods on several examples of major geomagnetic storms.

REFERENCES:
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