RELATIVISTIC SOLAR PROTON DYNAMICS DURING THE 14 JULY, 2000 GLE

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The primary relativistic solar proton parameters during the July 14, 2000 “Bastille day” GLE have been obtained by a modeling of the ground level enhancement (GLE) effect on the neutron monitor network and comparing it with observed values. The modeling comprised an optimization procedure as well as proton trajectory calculations in the Tsyganenko-89 geomagnetic field model. The spectrum, pitch-angle distribution and anisotropy of relativistic solar protons (RSP) obtained for 5 successive moments of time showed a certain dynamical changes of these parameters during the event. From the most remarkable features one can distinguish the two stage particle emission from the Sun as well as bidirectional anisotropy in respect to the IMF direction.