NASA TECH BRIEF

Solar Activity History Model

A solar activity model has been devised to provide information on solar activity history. The model includes data for plages, sunspots, filaments, and flares. The purpose of the model is to enable scheduling which will indicate the time periods when solar experiments can be conducted.

Data were collected at various locations throughout the world and recorded on tape for the computer. The motion of sunspots and plages around the sun is dependent on their solar latitude. A reference coordinate system was defined. The solar axis is defined to be inclined 7.25 degrees from the pole of the ecliptic and to be oriented so that the ascending node of the solar equator is 73.667 degrees + 50.25t seconds, where t is the time in years since 1850. The reference (0 degree) meridian is the meridian that passed through the ascending node of the solar equator at mean noon January 1, 1854, and whose interaction with the solar equator moves around the equator with a period of 25.38 days. The solar equator and reference meridian provide the origin for heliographic latitude and longitude.

Notes:

1. This information may be of interest to astronomers and meteorologists.
2. Requests for further information may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: TSP69-10776

Patent status:

No patent action is contemplated by NASA.

Source: Paul McKowen of
Martin Marietta Corporation
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