

中国电机工程学会电磁干扰(EMI)专委会年会优秀论文 大规模电网应对空间灾害天气的问题

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摘要:

空间天气的源头来自太阳, 为太阳的剧烈活动所驱动。空间灾害天气对人类技术系统的影响很大, 其中影响、危害最大的是电力系统, 并且电网的规模越大越容易受到攻击。论述了空间天气的基本概念、主要影响和国内外的研究现状, 并通过对国内外空间天气影响事件的分析, 提出了我国超大规模电网应对空间灾害天气需要研究、解决的科学问题。研究这些问题, 有利于提高我国在空间天气及影响研究领域的国际学术地位, 为我国电网的安全运行提供理论和技术保证。

关键词:

Scientific Issues on How to Cope With Damage in Large-Scale Power Grid Caused by Disastrous Space Weather

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Abstract:

The sun is the origin of space weather that is driven by violent activities of the sun. The disastrous space weather greatly influences technology systems on the ground. Among the influenced technology systems, the influence on power grids is the most severe, and the larger the power grid scale is, the more vulnerable it is. In this paper, the basic concept of space weather and its main impact are discussed and the present situation of the research in this field home and abroad is reviewed. On the basis of analyzing the accidents impacted by space weather home and abroad, the scientific issues, which must be researched and solved to cope with disastrous space weather for very large-scale power grids in China, are proposed. Studying these issues will be favorable to improve the international academic standing of China in the field of space weather and its impact, and can provide theoretical and technical foundation to ensure secure and reliable operation of large-scale power grid in China.

Keywords:

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