

Annotation

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Protecting Electrical Equipment. Good Practices for Preventing High Altitude Electromagnetic Pulse Impacts. – De Gruyter, Berlin, 2019.

This unusual book recounts the history and development of military nuclear programs in the USSR and USA; the role of intelligence services in the development of nuclear weapons; discovery of electromagnetic pulses (EMP) caused by high-altitude nuclear explosion; and numerous tests of nuclear weapons. The book contains numerous previously secret documents and photos that have been recently declassified and approved for public release.

Using approachable language for the nonspecialist in nuclear physics, the book describes the formation process of EMPs caused by high-altitude nuclear explosions (HEMP) and discusses numerous factors affecting the HEMP strength and other of its parameters. Also discussed is the impact of nuclear EMPs on electronic components and devices and also on electrical power equipment.

The main part of the book describes only practical (and not theoretical, as in hundreds of existing scientific reports) protective methods and protection means, as well as methods for effective evaluation of the protective measures.

Due to its breadth of scope, timeliness, depth of coverage and the practical importance of described protective means, the book may be considered as an encyclopedia of HEMP, having no equal on the book market.

The book is intended for electrical engineers dealing with the development, design and operation of electronic and electrical equipment, and it will also be useful for university lecturers and students. Much interesting material will be found here, also appealing to fans of the history of technology.

Theme of the book corresponds to the “Executive Order on Coordinating National Resilience to Electromagnetic Pulse”, signed by President D. Trump at March 26, 2019.