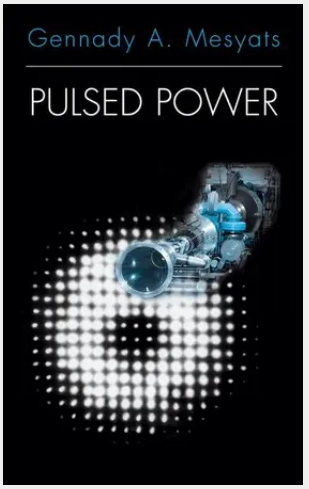
Mesyats

Pulsed Power



Mesyats' **Pulsed Power** provides in-depth coverage of the generation of pulsed electric power, electron and ion beams, and various types of pulsed electromagnetic radiation. The electric power that can be produced by the methods described ranges from 10 to 10 W for pulse durations of 10 -10 s.

The book consists of nine parts containing 28 chapters, which deal with various aspects of pulsed power and high-power electronics and cover a concise theory of electric circuits as applied to nanosecond pulse technology; physics of fast processes occurring in electrical discharges in vacuum, gases, and liquids; phenomena in long lines; mechanisms of operation and designs of high-power gas-discharge, plasma, and semiconductor closing and opening switches as well as of high-power electric pulse generators using these switches; solid-state (semiconductor and magnetic) methods of production and transformation of nanosecond high-power pulses; and methods of production of high-power pulsed electron and ion beams. The closing part describes methods applied to produce high-power nanosecond pulsed X-rays, laser beams, microwaves, and ultrawideband electromagnetic radiation.

This all-embracing book covers gas, laser, semiconductor, and magnetic circuit elements, the phenomenon of explosive electron emission discovered by the author, diodes of various types, including semiconductor diodes based on the SOS effect discovered with participation of the author, and methods of production of various types of high-power pulsed radiation.

Mesyats' Pulsed Power provides in-depth coverage of the generation of pulsed electric power, electron and ion beams, and various types of pulsed electromagnetic radiation. The electric power that can be produced by the methods described ranges from 106 to 1014W for pulse durations of 10-10-10-7s. The book consists of nine parts containing 28 chapters, which deal with various aspects of pulsed power and high-power electronics and cover a concise theory of electric circuits as applied to nanosecond pulse technology; physics of fast processes occurring in electrical discharges in vacuum, gases, and liquids; phenomena in long lines; mechanisms of operation and designs of high-power gas-discharge, plasma, and semiconductor closing and opening switches as well as of high-power electric pulse generators using these switches; solid-state (semiconductor and magnetic) methods of production and transformation of nanosecond high-power pulses; and methods of production of high-power pulsed electron and ion beams. The closing part describes methods applied to produce high-power nanosecond pulsed X-rays, laser beams, microwaves, and ultrawideband electromagnetic radiation. This all-embracing book covers gas, laser, semiconductor, and magnetic circuit elements, the phenomenon of explosive electron emission discovered by the author, diodes of various types, including semiconductor diodes based on the SOS effect discovered with participation of the author, and methods of production of various types of high-power pulsed radiation.

353,09 €
329,99 € (zzgl. MwSt.)

Nicht mehr lieferbar

Artikelnummer: 9780306486531
Medium: Buch
ISBN: 978-0-306-48653-1
Verlag: Springer Us
Erscheinungstermin: 21.12.2004
Sprache(n): Englisch
Auflage: 2005. Auflage 2004
Produktform: Gebunden
Gewicht: 1311 g
Seiten: 568
Format (B x H): 173 x 256 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)