

A technology of pulse power supply and inductance, which is applied in the direction of electric pulse generator circuit, energy storage element to generate pulse, etc., can solve the problems ...

As industrial applications place higher requirements on compact and portable pulsed power supplies, the National Key Laboratory of Transient Physics (NKLTP) recently ...

This paper proposed a switched mode multiphase interleaved pulsed power supply topology with energy recovery and inductive storage based on the interleaved buck converter and pulse ...

When the pulse power supply works at a higher pulse repetition frequency, a larger inductor is required to make it run in the CCM mode, so the ...

The high energy density pulse power supply with the capacitor bank as the energy storage unit is an essential part of the primary energy excitation system of the high power laser facility.

Superconducting pulsed-power supply (SPPS) provides an efficient method for both high-density inductive energy storage and high current pulse generation. An SPPS ...

In the article, a new type boost high-voltage nanosecond pulse generator is proposed. The distributed inductance of the transmission line is utilised as the energy storage ...

Theoretical and simulation modelling demonstrates that the load current increases by 29% and the total energy recovery increases by 2.9% at a constant 25 Hz operating frequency. ...

In this paper, to obtain a higher amplitude, higher energy transfer efficiency and better waveform quality of pulse current, a pulsed power supply that has time delay effect of ...

Inductors: Energy Storage Applications and Safety Hazards In this article, learn about how ideal and practical inductors store energy and what applications benefit from these ...

To develop a light and small high voltage pulsed power source, an innovative fast pulse technology based on an explosive driven ferroelectric generator (EDFEG) is investigated. An ...

However, miniaturization and weight reduction of pulsed power supplies pose significant challenges. To address these issues, we present a novel approach using a high ...

Inductive energy storage pulse power supply

Combining the advantage of a short pulse generated by the transmission line and the principle of inductance boost, transmission lines are used as secondary inductive energy storage units to ...

Traditional laser-diode power supplies are designed using a linear regulator, a switch-mode regulator, or a pulse-forming network, but ...

In this study, the load characteristics of an inductive energy storage power supply and the ozone production efficiency using a wire-to-plate ...

An inductive energy storage pulse power system is being developed in BARC, India. Simple, compact, and robust opening switches, capable of generating hundreds of kV, are key ...

In the article, a new type boost high-voltage nanosecond pulse generator is proposed. The distributed inductance of the transmission line is ...

Combining the advantage of a short pulse generated by the transmission line and the principle of inductance boost, transmission lines are ...

Abstract An inductive energy storage (IES) pulsed power generator driven by a silicon carbide metal oxide semiconductor field effect ...

The inductive energy storage pulsed power generator using GaN FETs as opening switches has developed, and the output obtains a maximum voltage of ~900 V with ...

Using capacitive energy storage systems the IGBT was investigated as closing switch with the objective of generating short current pulses with high amplitudes, as they are e. g. required for ...

The application of pulse power technology in the industrial and military fields requires pulse power as a large current generator. The high energy storage density makes the inductive energy ...

These systems typically include a primary power supply, energy storage capacitor, and a switch which transfers the pulse of energy to the load. Loads may be electromagnets, induction ...

Inductive energy storage type pulse power supply has great advantages in energy density and has far-reaching development potential. The XRAM pulse power supply based on series ...

When the pulse power supply works at a higher pulse repetition frequency, a larger inductor is required to make it run in the CCM mode, so the energy storage capacitor is ...

Comparisons of Three Inductive Pulse Power Supplies The energy density of the inductive energy storage

systems is one order of magnitude higher than that of the capacitive ones. Therefore, ...

By now, a few HTSPPTs have already been tested based on inductive energy storage system [6], [7], [8] and capacitive energy storage system [9]. High energy transfer ...

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Inductive pulsed power supply systems are a class of devices that utilise magnetic energy storage via inductors to generate high-power pulses. By storing energy in the magnetic field of ...

Combining the advantage of a short pulse generated by the transmission line and the principle of inductance boost, transmission lines are used as secondary inductive energy ...

The application of inductive energy storage in the generation of high-current pulses has attracted considerable attention during recent years. In this paper, a new inductive ...

Inductive energy storage pulsed power supply is essentially a magnetic-field energy storage pulsed power supply, in which energy is stored in the magnetic field of the coil.

As an important component of the electromagnetic launch system, the pulsed power supply has influenced the course of the electromagnetic launch technology for its engineering applications. ...

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