

In this paper, a parallel-resonant isolated bidirectional DC-DC converter with low current ripple and high voltage gain is proposed for the battery storage systems. In the low ...

The resonant capacitor C_{p1} is charged by the batteries B_{1a} and B_{1b} through a loop composed of S_{1a} , L_{p1} , C_{p1} , and S_{2a} . The resonant current i_{Lp1} will increase from zero at t_0 , and then oscillate back to ...

The hybrid energy storage system (HESS) uses the retired power battery can prolong the battery life cycle and lower the system's cost. A series-parallel resonance switched-capacitor ...

The parallel LLC resonant circuit, an R.T. circuit consisting of two inductors and a capacitor, along with the equivalent load resistance, forms a series-parallel hybrid topology, as ...

In this paper, a capacitively-isolated parallel-resonant converter is proposed to miniaturize the circuit volume by employing capacitive isolation, instead of a bulky transformer.

For applications in pulse power systems, energy storage capacitors must be charged repeatedly to significant DC voltage levels (greater than 1 kV). Resonant converter topologies can be ...

This study proposes a series of resonant switched-capacitor (ReSC) voltage equaliser, which... Skip to Article Content ... the discontinuity of renewable generation needs ...

Direct cell-to-cell voltage equalizers have been proposed for series-connected energy storage cells, such as lithium-ion batteries and electric double-layer capacitors (EDLCs). Conventional ...

To reduce the impact of series battery pack inconsistency on energy utilization, an active state of charge (SOC) balancing method based on an inductor and capacitor is proposed. Only one inductor and one capacitor can ...

The series-parallel switched-capacitor (SPSC) equalization circuit has high voltage stress on switch. To overcome this problem, an automatic voltage equalization circuit ...

An automatic parallel resonant switched-capacitor equalizer (PReSCE) for series-connected battery strings is proposed, which utilizes resonant switched-capacitor to eliminate the inrush ...

An LC circuit, also called a resonant circuit, tank circuit, or tuned circuit, is an electric circuit consisting of an inductor, represented by the letter L, and a capacitor, represented by the letter C, connected together. The

circuit can act ...

Based on the different energy storage characteristics of inductors and capacitors, this study innovatively proposes an integrated active balancing method for series-parallel battery packs based on inductor and capacitor ...

A high-frequency link series-parallel resonant power converter is analyzed using the state-space approach. Analysis is presented for both the continuous capacitor voltage mode and the ...

total energy lost per cycle at resonance $S D E Q E = \dots$ (1.13) which represents the ratio of the energy stored to the energy dissipated in a circuit. The energy stored in the circuit is $2 \frac{1}{2} S \dots$

The ESRs of capacitor and energy storage cell are set to 40m Ω and 20m Ω , respectively. Fig. 8 shows simulation results of three SC equalizers for five cells. The initial cell ...

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