

**Title:** Modeling of a Solid-State Bipolar Blumlein Generator for n Stages

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**Abstract:** This paper models an n-stage stacked Blumlein generator for bipolar pulses for various load conditions. Calculation of the voltage amplitudes in time domain at the load and between stages is described for an n-stage generator. For this, the reflection and transmission coefficients are mathematically modeled where impedance discontinuity occurs (i.e., at the junctions between two transmission lines). The mathematical model developed is assessed by comparing simulation results to experimental data from a two-stage Blumlein solid-state prototype.

**Author Keywords:** Blumlein Line; Pulsed Power; Solid-State Marx Generator; Submicrosecond Bipolar Pulses

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