

BLUMLEIN HIGH VOLTAGE PULSE GENERATOR

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ABSTRACT

Pulse power generator techniques are important elements in progressing development and technology in a country. The development of its application covers all technological aspects, from the communication application as far as the military application. It is growth in accordance with the latest technology invention which needs a high allocation of cost to build any types of pulse power generator.

In this project we study and propose the simple and low cost pulse power generator technique by using the Blumlein Pulse Generator. This study includes developing the technique to provide a stacked pulse generator, so that the output multiplication can be varied whenever we want.

Blumlein pulse generator technique is one of the pulse forming network terms which just has a limited information. Therefore it is important for us to study the characteristics of technique to match with the convenient condition through available equipment such as switching, power supply and so on. From the results of the study we aim to understand in details and to make it easier for the other development coming of related projects.

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1.0 INTRODUCTION.

1.1 GENERAL.

In general, there are a few types of high voltage pulse generators , among which are the Marx impulse/Marx line generator , pulse transformer , pulse generator using solid state devices , the Blumlein generator and so on. Each of these generators are utilized according to the particular devices and depending upon the characteristic and operational capabilities. Normally the output voltage , voltage rise time , wave shape , the pulse repetition rate and cost to build are the characteristic requirements which influence the choice of the pulse generator types.

The Blumlein generator is a simple design , easy to construct and inexpensive . By using the coaxial cable in stacked arrangement , the output pulse from this generator is convenient for low power applications such as high voltage testing of small capacitance load , trigger generators with low jitter and x-ray generator power supply.