

## **DEVELOPMENT OF COMPACT MARX GENERATOR**

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This paper presents the experimental results and design details of a compact hybrid type Marx generator to directly drive loads on the order of 10 ohms. The device will be used for electron beam generation. The Marx generator developed has open circuit voltage output of 300KV and FWHM of 640ns with rise time of 200ns. It operates in open air now but will soon be placed in container which will help to reduce its rise time further. It has six stages all stages charged to same polarity, that stores 1.8KJ at full charge. The operational characteristics like impedance, inductance, current delivering capacity, rise time etc of the Marx generator developed are derived experimentally. A detailed study on the effect of loading on the generator and its performance is also done. The overall size of the generator without its container is 0.8m in length and 0.45m in height and 0.35 m in width. The trigger generator developed for this purpose for triggering the gaps will be discussed in details. Fabrication details of the container will also be given. The Marx generator though now working in single shot mode will after words be operated in repetitive mode, design details for operating it in repetitive mode are discussed.