Contribution ID: **1294** Type: **Poster**

# 5P45 - Implementation of Line Type High Voltage Nanosecond Rectangular Pulse Generator with Adjustable Pulse Widths for Liquid Discharge Applications

*Friday 28 June 2019 13:30 (1h 30m)*

Recent advances show the increasing demand of fast rise time pulse generators with variable high voltage and pulse durations with high repetition rate because of its wide range of applications. Considering the above, a low cost, simple, rugged and compact high voltage, nanosecond pulse generator is developed using coaxial transmission line with output voltage level up to 10 kV. Variable pulse widths in the range of a few 100 ns are achieved by varying the physical length of the transmission line. The pulse widths obtained are 120ns, 160ns, 240 ns, 300 ns, 400 ns with rise time of ˜20ns. An in-house developed spark gap switch is used for obtaining 20 ns rise time. This paper discusses the use of designed pulse generator for liquid discharge applications to study several discharge properties of the Oil and Water.

**Authors:** Dr DESHPANDE, Amol (Institute for Plasma Research, Gandhinagar, India.;Sardar Patel Institute of Technology, Mumbai, India.); Dr GOSWAMI, Uttam (Institute for Plasma Research, Gandhinagar, India.); Dr VEDA PRAKASH, G (Center for Energy Studies, Indian Institute of Technology, New Delhi, India); Mr SINGH, Raj (Institute for Plasma Research, Gandhinagar, India.); Dr V P, Anitha (Institute for Plasma Research, Gandhinagar, India.)

**Presenter:** Dr V P, Anitha (Institute for Plasma Research, Gandhinagar, India.)

**Session Classification:** Poster - Compact and Explosive Pulsed Power and Pulsed Power Systems

**Track Classification:** 8.2 Generators & Networks