

Contribution ID: 70

Type: Poster

## 250kV - 60ns double pulses generator as an induction cell driver for a flash radiography LIA

*Tuesday 20 June 2017 13:30 (1h 30m)* 

The design of multi-pulses, multi giga-watt, high voltage generators is of particular interest for electron beam induction accelerators. The major requirements for this type of pulsed power generators are a few percent flat top, a jitter in the range of 1 ns, high pulse reproducibility shot to shot and a drastic reliability. As an opportunity for future flash X-rays

machines, CEA is developing a HV generator able to produce either one or two 250 kV - 60 ns square pulses.

The two pulses are created, independently, by the discharge of two 500 kV, 12.5 ohms water insulated pulse forming lines in serie. As it is composed of two sets of lines in parallel,generator's impedance is 6.25 ohms. Air pressurized main spark-gap switches are triggered by a low divergence 266nm Nd:YAG laser.

Single pulse version of this generator has been validated thanks to many tests at nominal voltage and default mode experiments. Works presented in this paper concern the double pulses version of the generator. Results of experimental tests on matched resistive load and coupled to ferrite induction cells will be exposed.

Author: CADILHON, Baptiste (CEA)

**Co-authors:** CASSANY, Bruno (CEA (FR)); Dr COURTOIS, Laurent (CEA); Mr MODIN, Patrick (CEA); Dr VERMARE, Christophe (CEA)

**Presenter:** CADILHON, Baptiste (CEA)

Session Classification: Poster session II - Particle Beam and Accelerator Technologies

Track Classification: Particle Beam and Accelerator Technologies