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CEA-Saclay high voltage modulator for pulsed klystrons

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The need for new RF power sources operating at different frequencies implies to develop HV sources to match their specifications. Two pulsed klystrons are employed at Saclay Supratech platform for R&D on superconducting accelerating cavities at 704MHz and 1300MHz and for 704MHz power couplers processing. A hard tube modulator that was at first developed for the 1300MHz klystron operation has been modified to generate the HV pulses shapes for a second klystron at 704MHz. The goals were to enable the use of a floating HVPS three times more powerful instead of the single ended old one, to increase the duty cycle by a factor of five, and to improve the mechanical aspect in order to simplify the remove of the electronics from the oil tank. The modulator, electronics and mechanicals, modifications are described. The first results of the HV measurements performed on the 704MHz klystron and measurements performed on the 1300MHz klystron will be presented.

Primary author: Mr HAMDI, Abdallah (CEA/Saclay)

Co-authors: Mr BALLESTER, Francisco (CEA/Saclay); Mr MONNEREAU, Gilles (CEA/Saclay); Mr DESMONS, Michel (CEA/Saclay); Mr CHEL, Stéphane (CEA/Saclay)

Presenter: Mr HAMDI, Abdallah (CEA/Saclay)

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