

MEASUREMENT METHODS OF PULSED POWER GENERATORS

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ANNOTATION

There are some suitable methods for the measurement of ultra-short solitary electromagnetic pulses (EMP) that are generated by high power microwave generators. The characteristics of EMPs are high power level ($P_{\max} = 250$ MW) and very short time duration ($t_p \in \langle 1, 60 \rangle$ ns). Special requirements for measurement methods have to be considered because of the specific EMPs properties. In the paper, two suitable methods for this application are presented. The first one, the calorimetric method, utilizes the thermal impacts of microwave absorption. The second method presented – the magneto-optic method - uses the Faraday's magneto-optic effect as a sensor principle. A combined calorimetric sensor was realized and there were made some experimental EMP measurements with good results. The sensor utilizing the magneto-optic method is still in development.

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