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Experimental Equipment for Extraction of ELDRS Conversion Model Parameters and its Application for Estimation of Radiation Effects in Bipolar Devices

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Experimental equipment for extraction of ELDRS conversion model parameters was described. The equipment involves measure device with three voltage sources, three current sensors, one voltmeter and two relay switch-boards. All the components of the device are controlled by computer program, which enable to provide measurements during irradiation in automatic mode. The program is able to perform math processing of experimental results to obtain conversion model parameters. The availability of the equipment for experimental extraction of the parameters was demonstrated for voltage comparator LM111. The estimation of the dependence of input current of the comparator on total dose at low dose rate and elevated temperature was presented and experimentally verified.