

Spark Sensor Based on Lithium-Potassium-Aluminophosphate Borate Glass Doped with Eu

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Abstract. We demonstrate the concept of a spark sensor operating in UV range of the electromagnetic spectrum. The design of the device and the results of measurements of its most important characteristics are presented. Response time of the sensor is 3.8 ms and response threshold is 0.4 mW/m². For the sensing element of the device glass material with the composition 10Li₂O-15K₂O-15Al₂O₃-35B₂O₃-25P₂O₅ doped with 5 at.% Eu is used. The peak of luminescence of the material corresponds to 611 nm when excited by a wide band (with wavelengths from 300 to 400 nm) of UV radiation that guarantees the high operation ability of the designed sensor.

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