

Pulsed discharge in vapors of mixtures of cesium with metals

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Based on the results of computational and experimental studies, it is shown that the use of a cesium-rubidium alloy as a plasma-forming medium in serial pulsed sources of IR radiation is promising. It was found that at a 25 % weight content of rubidium in an alloy with cesium, the vapor pressure and thermal conductivity of the plasma are close to the specified characteristics of a serial flash lamp filled with cesium amalgam. The results obtained made it possible to increase the peak radiation power and create an environmentally friendly pulsed source of infrared radiation.

Keywords: pulse discharge, mixture of vapors, cesium, rubidium, potassium, mercury, alloy, vapor pressure, thermal conductivity, IR radiation.

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