
SIZE EFFECT OF LEAD AZID INITIATION BY CO₂ LASER RADIATION

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Explosive decomposition energy threshold for PbN₆ were estimated in case of CO₂ laser exposure. Dependence between Ignition threshold and laser beam diameter on the pressed powders surface was determent.

Laser beam was formed on the sample surface by the projection method. The beam size varied from 0,01 to 6 mm. Detonation probability curves were defined for each size. The Ignition threshold value were estimated from that curves. Explosive decomposition delays and process progress times were registered in the surface area.

Size effect in case of CO₂ laser exposure is similar to the case of 1.06 μm laser radiation wavelength exposure in quality manner. The results were discussed from the perspective of diffuse scattering in transparent explosives powders.

Keywords: *lead azide, laser ignition, size effect, carbon dioxide laser.*