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Characterising the light output from Argon bombs by two simultaneous diagnostic technique

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Abstract

The light output from Argon-bombs was investigated by means of ultra-high speed photography (Cordin Model 550-32 camera) and locally developed photodiode sen-sors. Tubes of various sizes were inated with Argon gas, and were detonated on one side of the tube with PE4 charges of mass between 0.1 kg and 1 kg. The evolution of emitted light was captured with the Cordin ultra high speed camera (side-on position with re-spect to detonation direction) and simultaneously monitored by two wideband photodiode sensors in the 0.4 _m to 1.1 _m optical spectrum. The photodiode sensors were placed in the side-on and face-on positions with respect to the detonation direction. Interesting phenomena were identi_ed and is reported.