
Laser ablation spectral energy thresholds evaluation at ultrashort laser pulses effect in vacuum

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Using Linnik-scheme interference microscope thin metallic and polymeric films laser ablation thresholds have been experimentally evaluated at ultrashort (45 fs) laser (266, 400, 800 nm) pulses effect. 5...7 μm thick microtome cuts of polymers and magnetron sputtered metallic films were used as targets. Threshold evaluation techniques based on crater diameter change due to incident laser pulse energy were used. Application of the method allows reduce demands to optical quality of the investigated specimen surfaces as compared to techniques based on crater depth or volume change.

Keywords: laser ablation, spectral threshold amount of energy, interference microscope, ultrashort laser impulses, metal and polymer targets.

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