Absorption and Ablation for Non-Planar Geometries

BENJAMIN OH, JOHN SINKO, The Ohio State University at Newark — The Bouguer-Lambert-Beer absorption law is a critical component of analytical laser ablation models. This law has been found to be useful for planar applications but it can also have significance in non-planar geometries. To be accurate, these applications must take into consideration the precise physical setup. Certain geometries offer special properties that may be beneficial to laser propulsion methods, specifically those of uniform ablation using focusing nozzles. This paper investigates the special circumstances using modified forms of the absorption law that apply to the considered parabolic, conical and spherical non-planar geometries.

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