

Performance and Potential of Laser Phosphor for Level D Applications

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ABSTRACT

For several years, projection systems with Solid State (SS) light sources have been positively received in FAA level-D Full Flight Simulator (FFS) applications. Initially, this has meant that Light Emitting Diode (LED) sources increasingly supplanted Arc-Lamp (ARC) sources, but the industry is now further diversifying their solution set with the introduction of Laser Phosphor (LP) light sources in simulation grade projection systems. This complicates projector selection, but critically enables system level performance advancement. LP sources provide the potential for unprecedented simulator luminance increases, efficient compatibility with all leading imaging panel technologies, and radiometric stability rivaling today's LED sources. This paper quantifiably summarizes the relative radiometric stability of LP source based, simulation-grade, projection systems, while discussing the current and future implementation of LP sources in light of FlightSafety International's recent delivery, and FAA Level D certification, of a first LP source based Full Flight Simulator.

BIO

David Emig

David Emig has substantial experience in electro-optical systems design and optical system characterization. He has delivered innovative display designs and developed patented technologies for Motorola's Display Design Center. David is currently a Staff Display Systems Engineer for FlightSafety International's Visual Simulation Systems division and focuses on display systems design and new technology development.