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Infrared Signatures of Laser Induced Plasma in Air ALEXANDRU HENING, RYAN LU, AYAX RAMIREZ, SPAWAR System Center Pacific, ADVANCED TECHNOLOGY TEAM — Characterization of the temporal and spatial evolution of laser generated plasma in air is necessary for the development of potential applications which range from laser induced ionized micro channels and filaments able to transfer high electric pulses over few hundreds of meters, to the generation of plasma artifacts in air, far away from the laser source. This work is focused mainly on the infrared spectrum. The influence of laser parameters (energy per pulse, pulse duration, repetition rate, wavelength and etc.) on the plasma formation and evolution has been investigated. Laser transmission losses through the air as well as through the breakdown plasma as well as their effect on infrared plasma signature are to be presented.

Alexandru Hening
SPAWAR System Center Pacific

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