

Abstract Submitted
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Non Destructive Evaluation using Terahertz Time Domain Spectroscopy and Imaging LINDSAY OWENS, Wright State University, CARLA BENTON, DOUGLAS PETKIE, JASON DEIBEL, WRIGHT STATE UNIVERSITY COLLABORATION — The Terahertz (THz) spectral range has received considerable attention for the development of non-destructive evaluation applications. This is due to the relatively high transmission through most dielectrics and high reflectivity off of metallic surfaces. THz spectroscopy can provide a non-destructive, standoff analysis technique capable of detecting corrosion on metallic surfaces under obscuration and defects in composite materials on aerospace structures. Such techniques have been utilized in the X-ray region of the spectrum, but unlike x-rays, THz is non-ionizing and non-destructive, enabling it to be safer for the user, and cause no harm to the sample. Continuous-wave and time-domain terahertz techniques were used to perform imaging on metallic and composite samples exhibiting corrosion and other defects.

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