IOWA STATE UNIVERSITY

Department of Electrical and Computer Engineering (ECpE) – Center for Nondestructive Evaluation (CNDE)

Microwave & Millimeter Wave Nondestructive Evaluation (NDE)

Real-Time, High-Resolution Imaging System Development

- Real-time, 3D, high-resolution, and portable imaging systems

Materials Characterization

- Custom probes for dielectric property and thickness measurement
- Microwave conductivity measurements

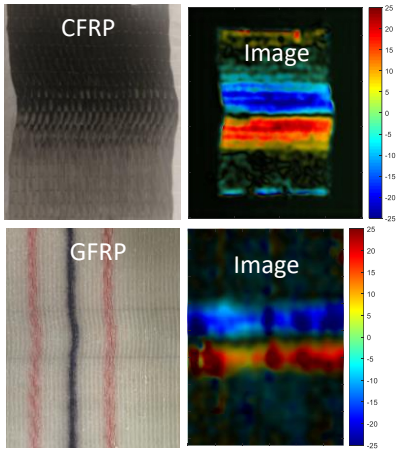
Evaluation of Fiber-Reinforced Composites

- Evaluation of fiber misalignment in carbon- and glass-fiver reinforced composites

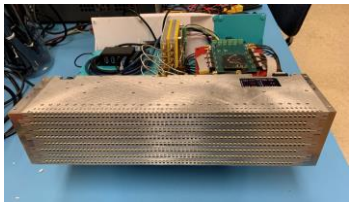
Microwave Polarimetric Imaging Methods

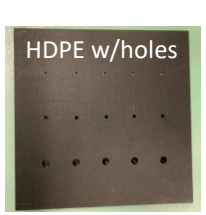
- Novel methods for performing polarimetric microwave imaging
- 3D polarimetry techniques

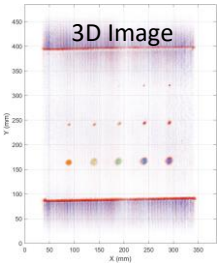
Detection of fiber misalignment in CFRP and GFRP



Imaging System







Composite Characterization and Real-Time Imaging System Development

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- NASA, USDoT
- Boeing, Honeywell, Pratt & Whitney, Nucor

Keywords

- 3D Imaging, Polarimetry, Composite Inspection, Materials Evaluation

Recognitions, Awards & Patents

- *Graduate Student Representative*, IEEE IMS
- IEEE TIM Outstanding Reviewer Award
- CNDE Trapp Fellowship
- Two pending US patents
- https://youtu.be/RE-PPXmtTeA (Video of 3D Real-Time Camera)