

(361)

Ultrasonic Evaluation of Additive Manufactured Stainless Steel 17-4 PH Specimens

---**Hossein Taheri**¹, Lucas Koester¹, and L. J. Bond¹, ¹Center for Nondestructive Evaluation, ASC II 223, 1915 Scholl Rd., Ames, IA 50011.

Additive manufacturing is a rapidly developing technology and evaluation of the resulting material properties is essential for reliable component design and performance. We show results of variability of ultrasonic metrics that are fundamentally related to bulk material properties. Methods used to mitigate conditions that complicate ultrasonic testing, such as roughness and anisotropy, are also addressed. The results demonstrate the capability of ultrasonic investigation to provide quantitative feedback for process optimization and qualification.

Acknowledgement:

This work is supported by the IU CRC program and the sponsors of the Center for Nondestructive Evaluation.