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Development of a Characterization Method for Determining Material Behavior of Mechanically Tested Additive Manufacturing Material by Time-Resolved Infrared Radiometry MD SALAH UDDIN, BRAHMANANDA PRAMANIK, Montana Technological University — Additive manufacturing (AM) is a widely used manufacturing process for producing complex geometric functional parts. It is a rapid prototyping technology that fabricates three-dimensional object under computer control by joining material layer-by-layer. AM method is widely applied in aerospace, automotive, and medical industries. Time-resolved infrared radiometry (TRIR) is a non-destructive testing method for investigating material. Recently, the application of TRIR method to AM material receives attention to many researchers. We applied the TRIR method for characterizing mechanically tested AM materials. We developed a model for determining material parameters for mechanically deformed specimens for characterizing the time-temperature relationship.

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