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ABSTRACT
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INVESTIGATION OF LIGHTNING-STRIKE INDUCED DAMAGE IN CARBON FIBER LAMINATE COMPOSITES BASED ON IR THERMOGRAPHY MEASUREMENTS

For safety reasons, the prediction of lightning-strike induced damage in composite materials is a major challenge for the aerospace industry. Non-destructive testing is expected to provide an insightful analysis of the triggered damage mechanisms and to quantify the resulting defects, in order to help optimize key features such as the nature of the resin, the type of the lightning-strike protection or the thickness of the painting layer. This is the point of the present paper which aims at illustrating how useful infrared thermography can be for the diagnosis of coated and uncoated thermoset and thermoplastic composites impacted by lightning arcs.