Abstract Submitted
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High-voltage DC flashover and punch-through of additively manufactured materials in pressurized air and dielectric oil for pulsed-power applications[1] IAN BEAN, Virginia Tech, THOMAS WEBER, Los Alamos National Laboratory, COLIN ADAMS, Virginia Tech, JOHN BOGUSKI, Los Alamos National Laboratory — Surface flashover and punch-through of dielectric materials are primary limiting factors for high-voltage, low-inductance pulsed-power drivers. The use of additively-manufactured (AM) materials as high-voltage insulation can enable rapid design iteration of complex geometries that are difficult to machine with standard techniques. We investigate the applicability of a range of AM materials for the purpose of high-voltage insulation in compressed air and dielectric oil environments. Details on these investigations are presented and compared to a variety of conventionally-manufactured insulating materials.

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