

Abstract Submitted  
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**Studies of Statistical Time Lag for High-Voltage DC Flashover and Punch-Through in Pressurized Air and Oil for Pulsed Power Applications**<sup>1</sup> I.A. BEAN, C.S. ADAMS, Virginia Polytechnic Institute and State University, T.E. WEBER, Los Alamos National Laboratory — Surface flashover and punch-through of dielectric materials are primary limiting factors for high power, low-inductance pulsed-power-driven experiments. We are investigating the formation of these discharges for varying dielectric materials and geometries common in pulsed power systems. The onset of these discharges in high-voltage DC environments have a strong dependence on the statistical time lag to formation which has not been thoroughly investigated in available literature. The results presented here detail the time dependence of these failure modes under a variety of conditions, allowing for a more accurate prediction of their inception.

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