

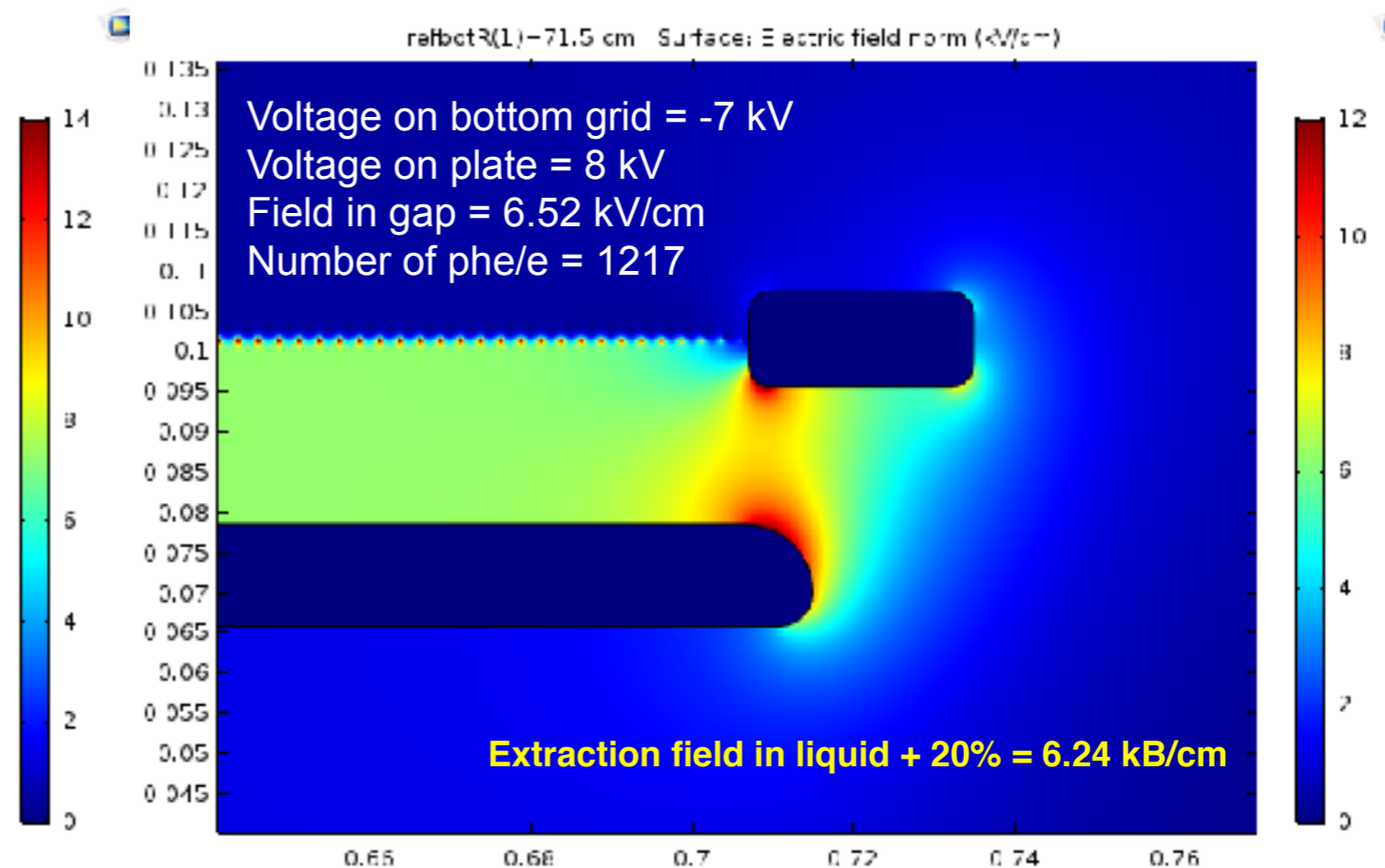
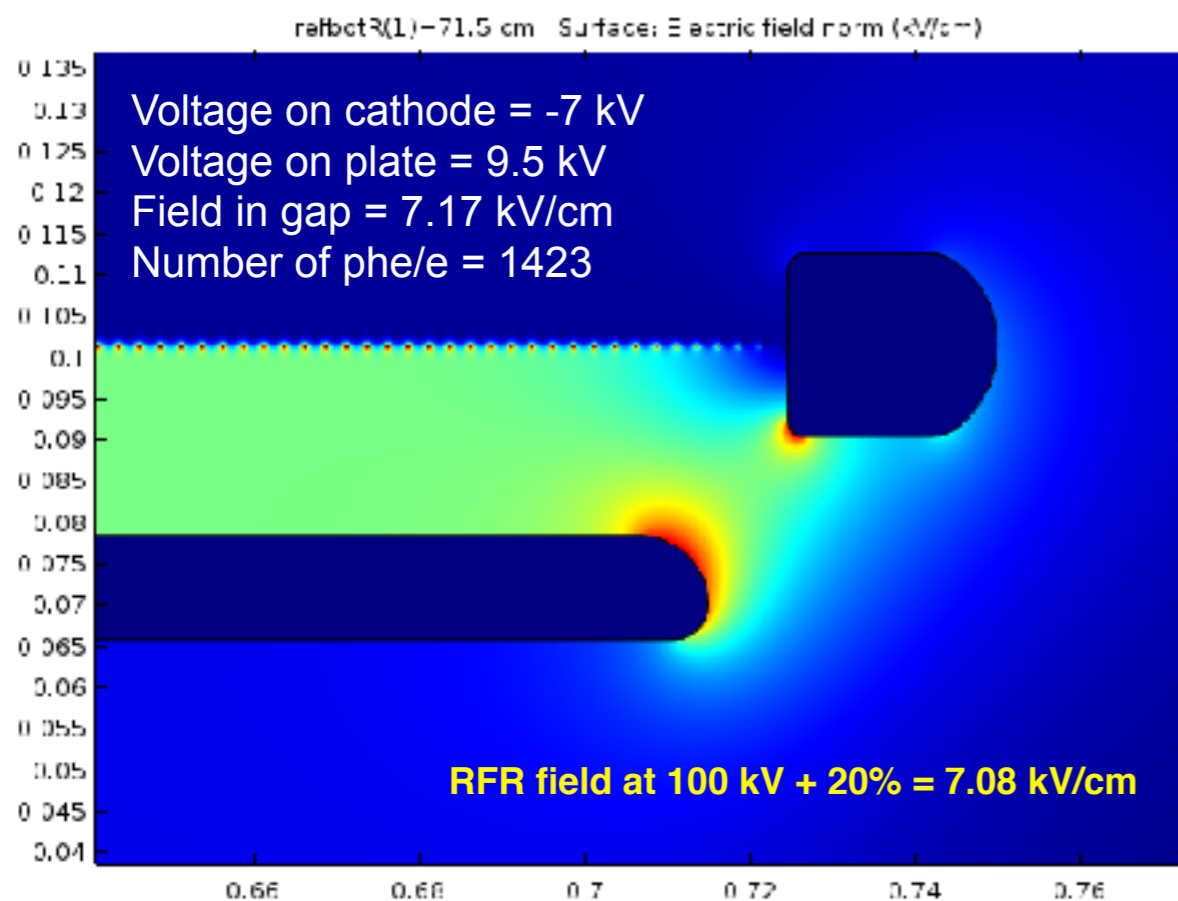
Phase II Update

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COMSOL Simulations

- Finalized the diameter of the bottom reflector plate
 - Needs to be large enough to test majority of the wire grid for the cathode
 - Needs to be small enough to fit within the ID of the bottom grid ring ($d_{\text{bottom}} < d_{\text{cathode}}$) and not create high fields on the corner of the ring



Next steps

- Simulations to check dimensions of PTFE grid supports, field ring
- Simulations of Jerry Va'vra's Ar tests last fall
 - Observed sparking between rings, *not* on grid mesh
 - Sparking at lower fields than expected
 - Can check his results in gas Ar and in Xe

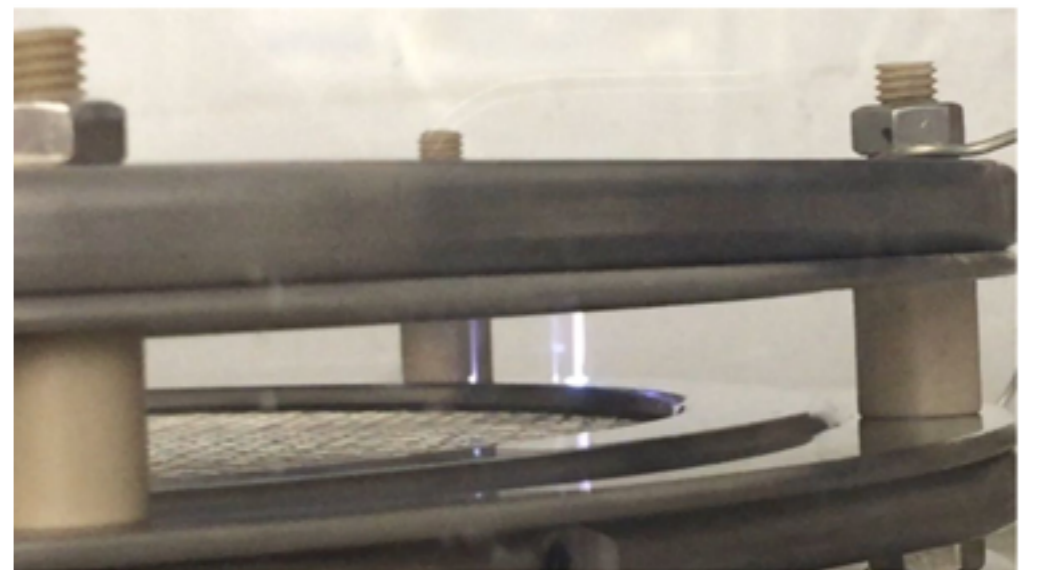
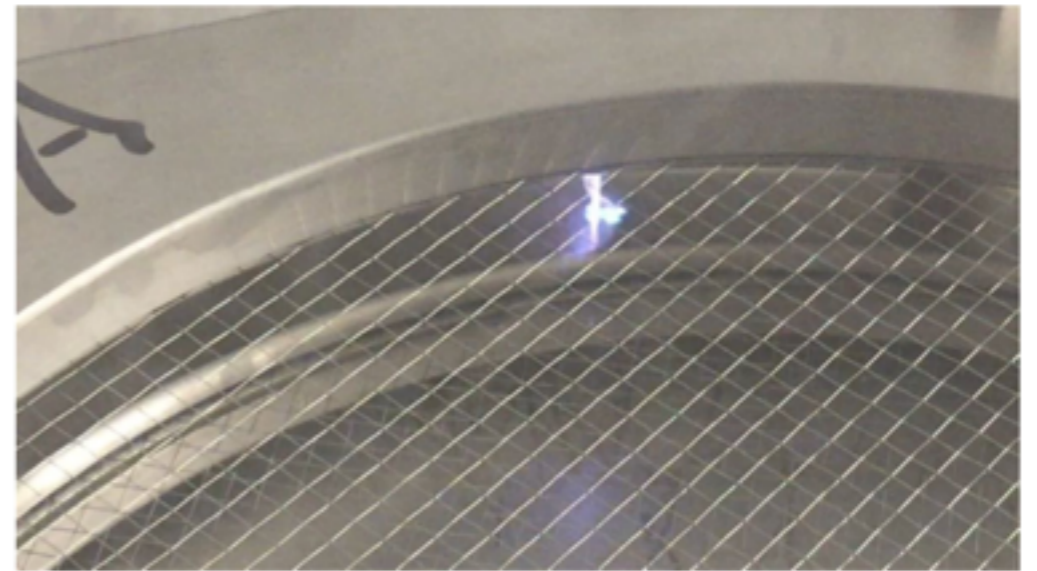


Figure 1: Photos from Jerry's test #85 with chamber in 1 bar of Ar gas, and anode and cathode wires installed. The $E_{\text{breakdown}} \sim 6.2 \text{ kV/cm}$ [from Jerry's Feb 17, 2017 report].