Shed modifications

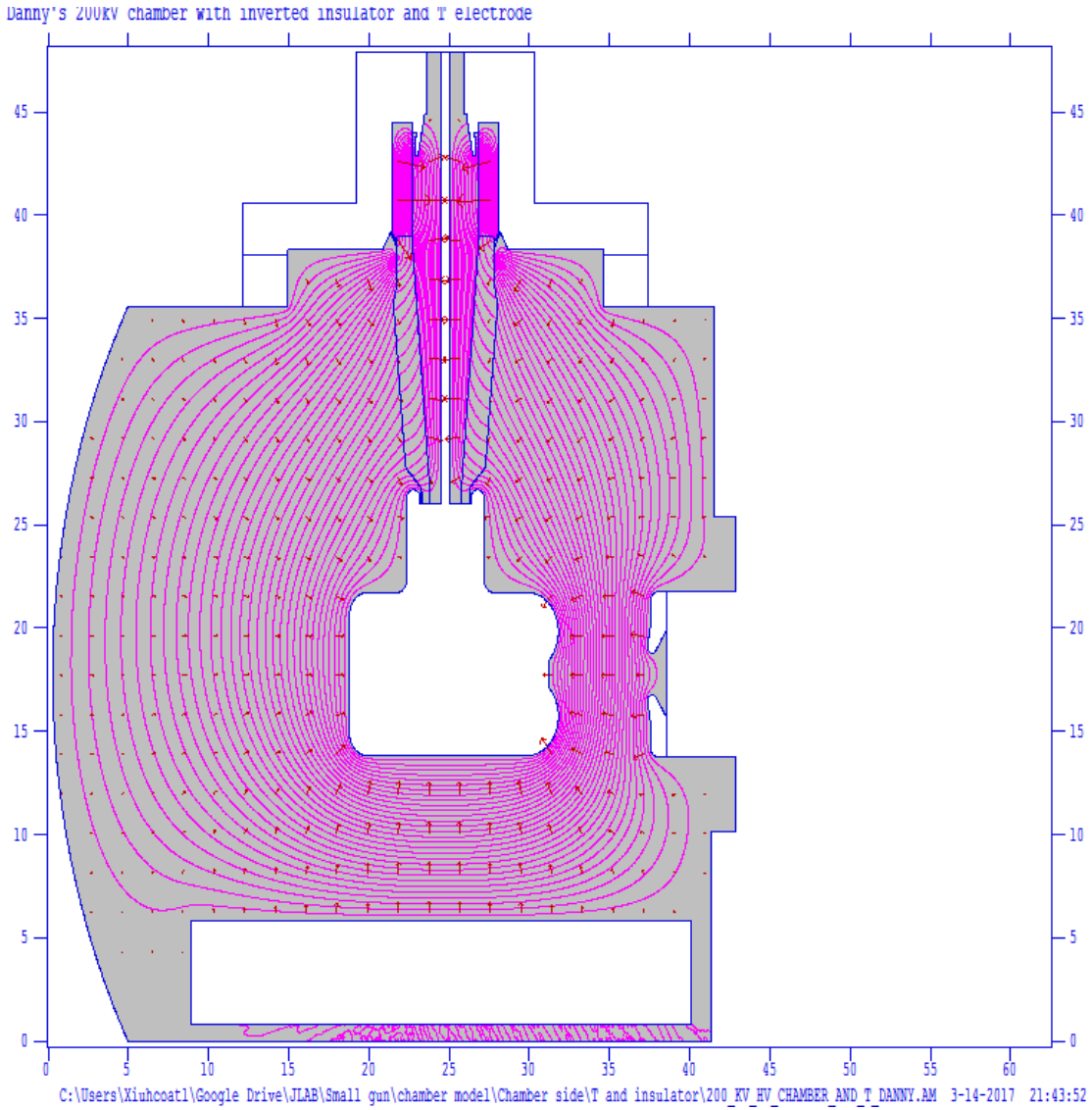
Gabriel Palacios

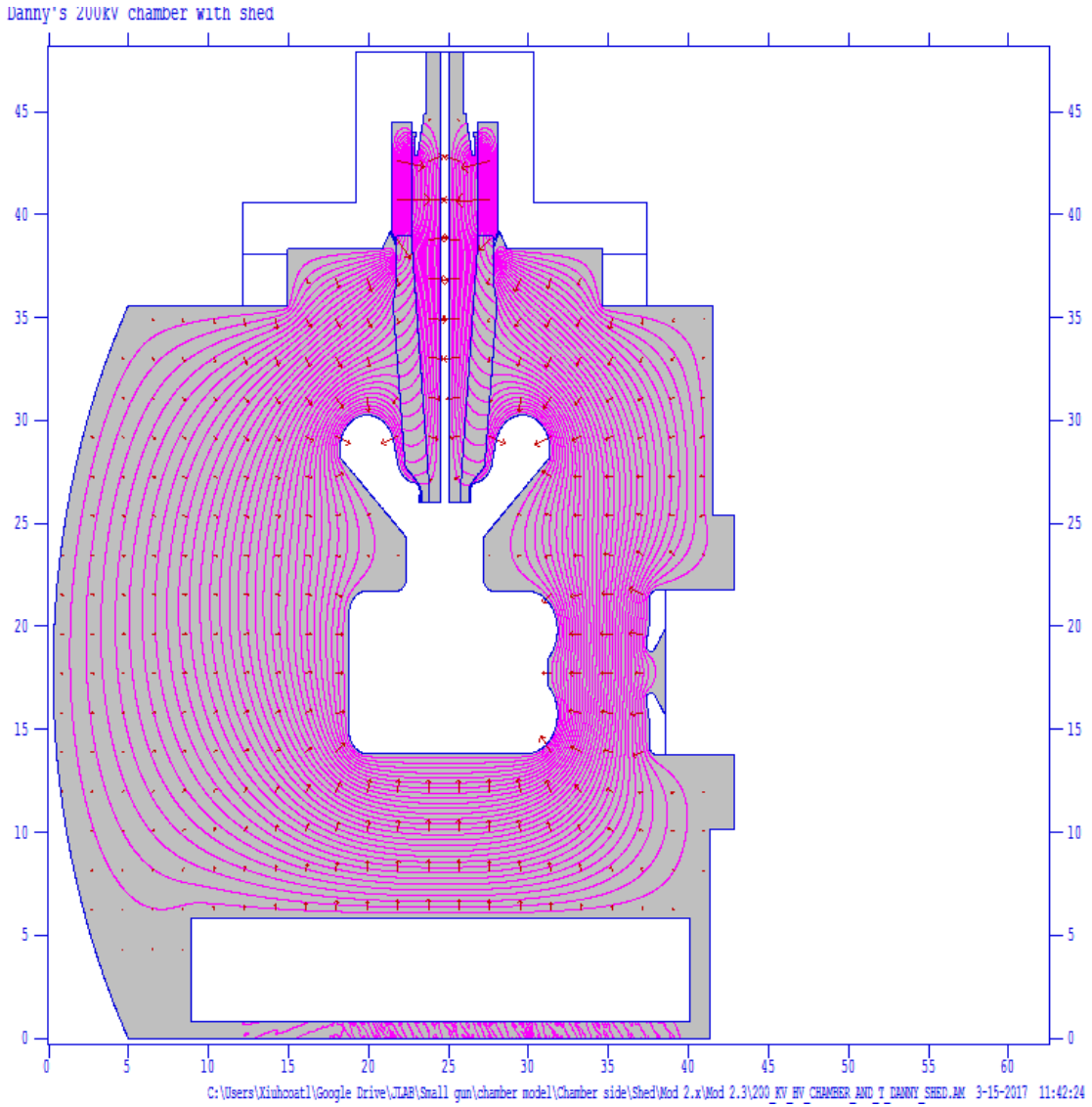
gpala001@odu.edu
03/15/17

Comparing baseline vs shed mod 2.3 at -200kV: Danny's model.

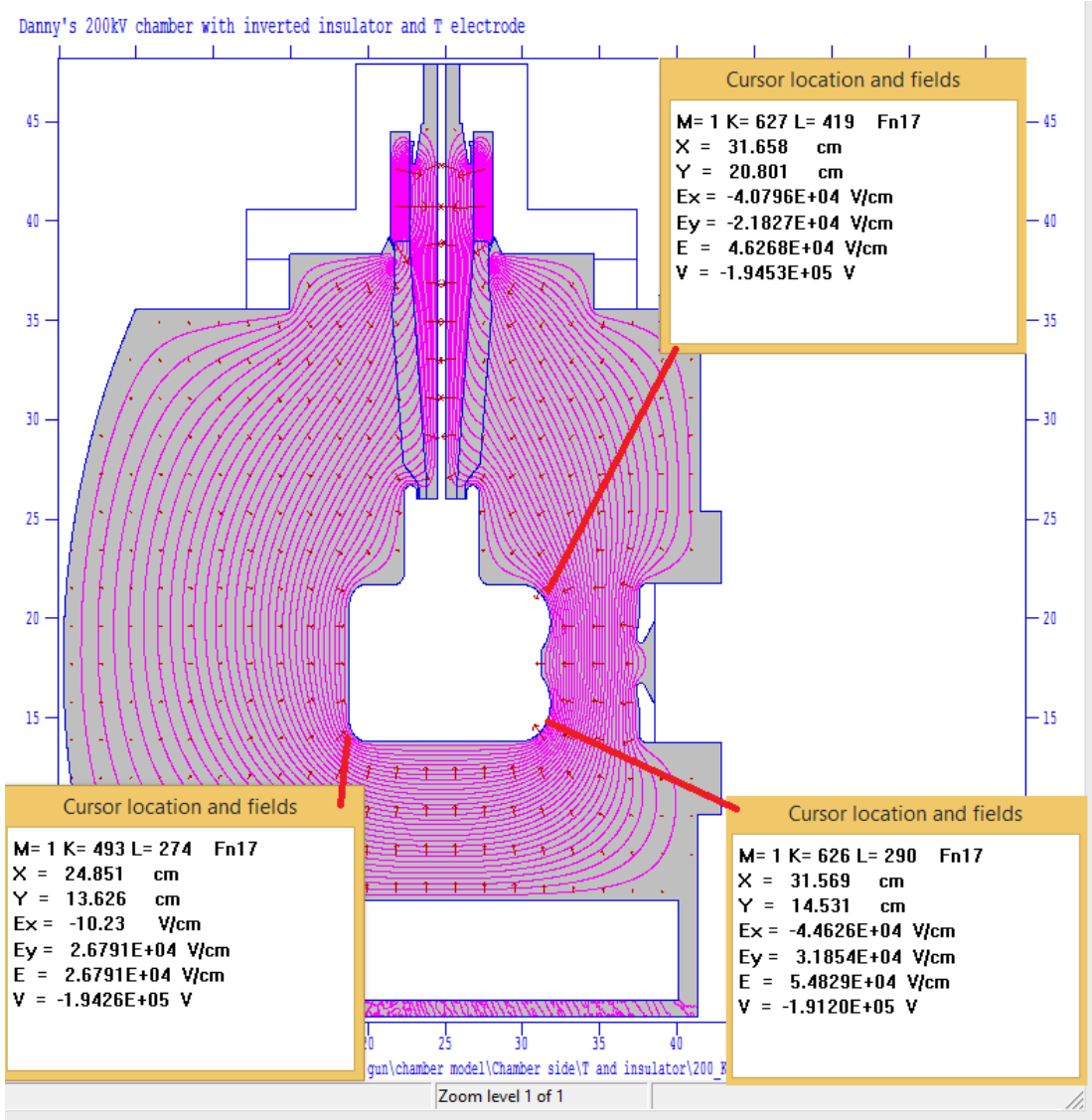
- Side view cross-section.
- Based entirely on Danny's model sketch.
  - Differences between my model and Danny's:
    - Bigger cathode
    - The anode is closer
    - Bigger NEG's
    - Way more detail to the small metal strips near triple point and in insulator flange
    - Included the detailed version of the rubber plug with internal shed
- My shed still has some issues (I made it too big so it gets too close to the insulator-shed interface making the field around 7mV/m), the triple point and cusp look better though.
- Included plots of potential, E-fields on rubber-insulator interface
- Included plots of E-fields on cathode-anode gap

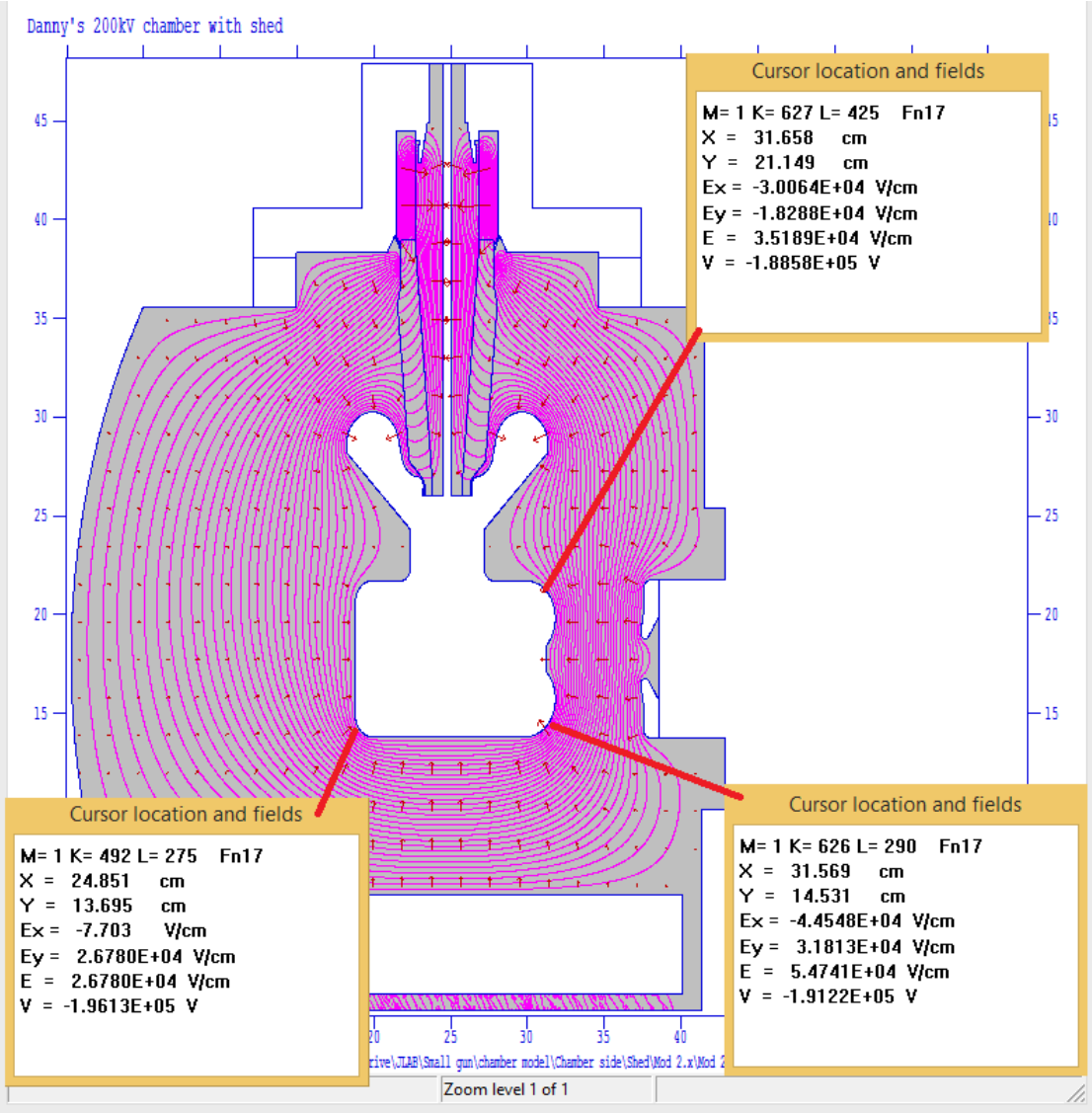
Baseline (left) vs Shed mod 2.3 (right) -200 kV



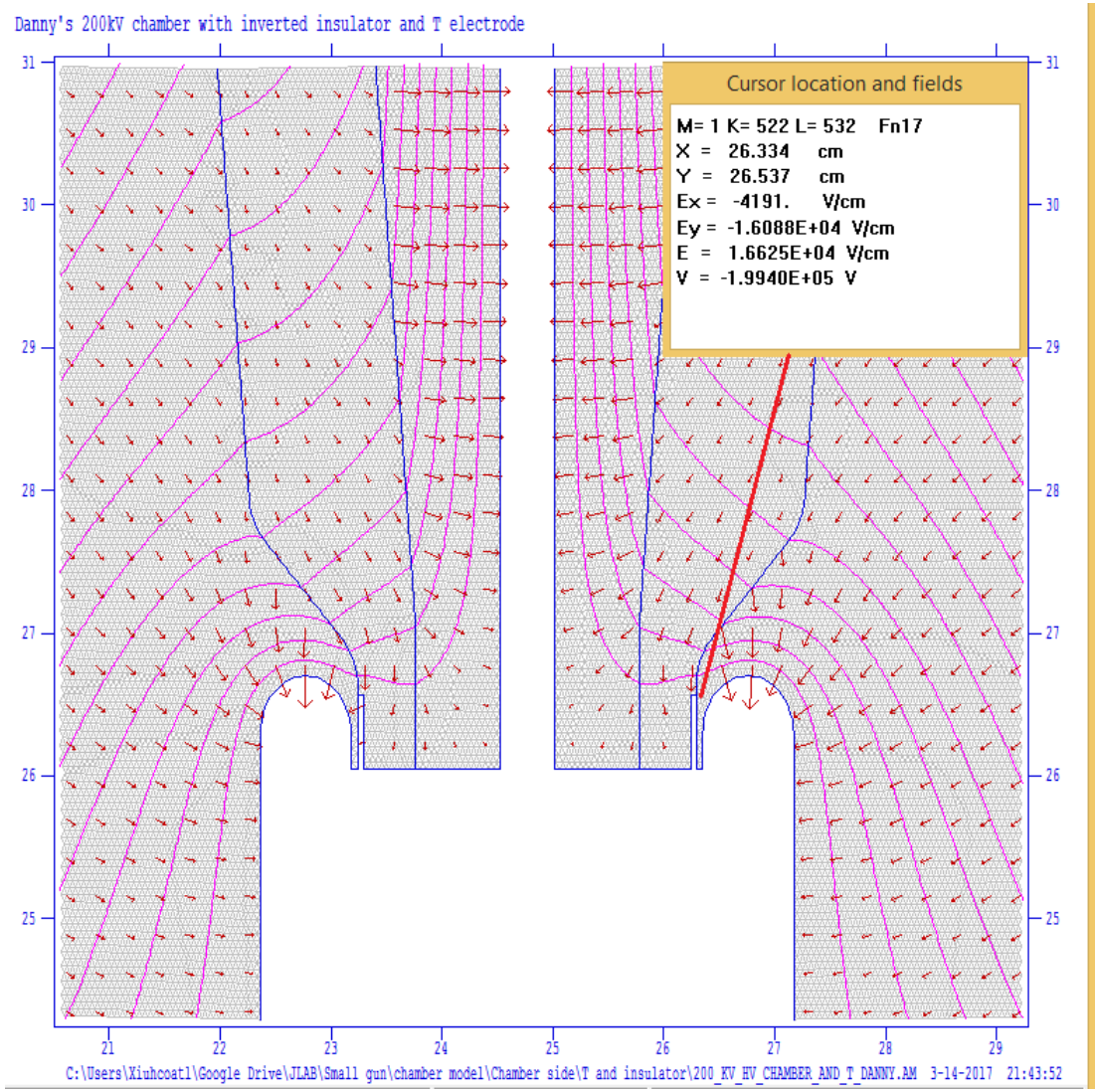


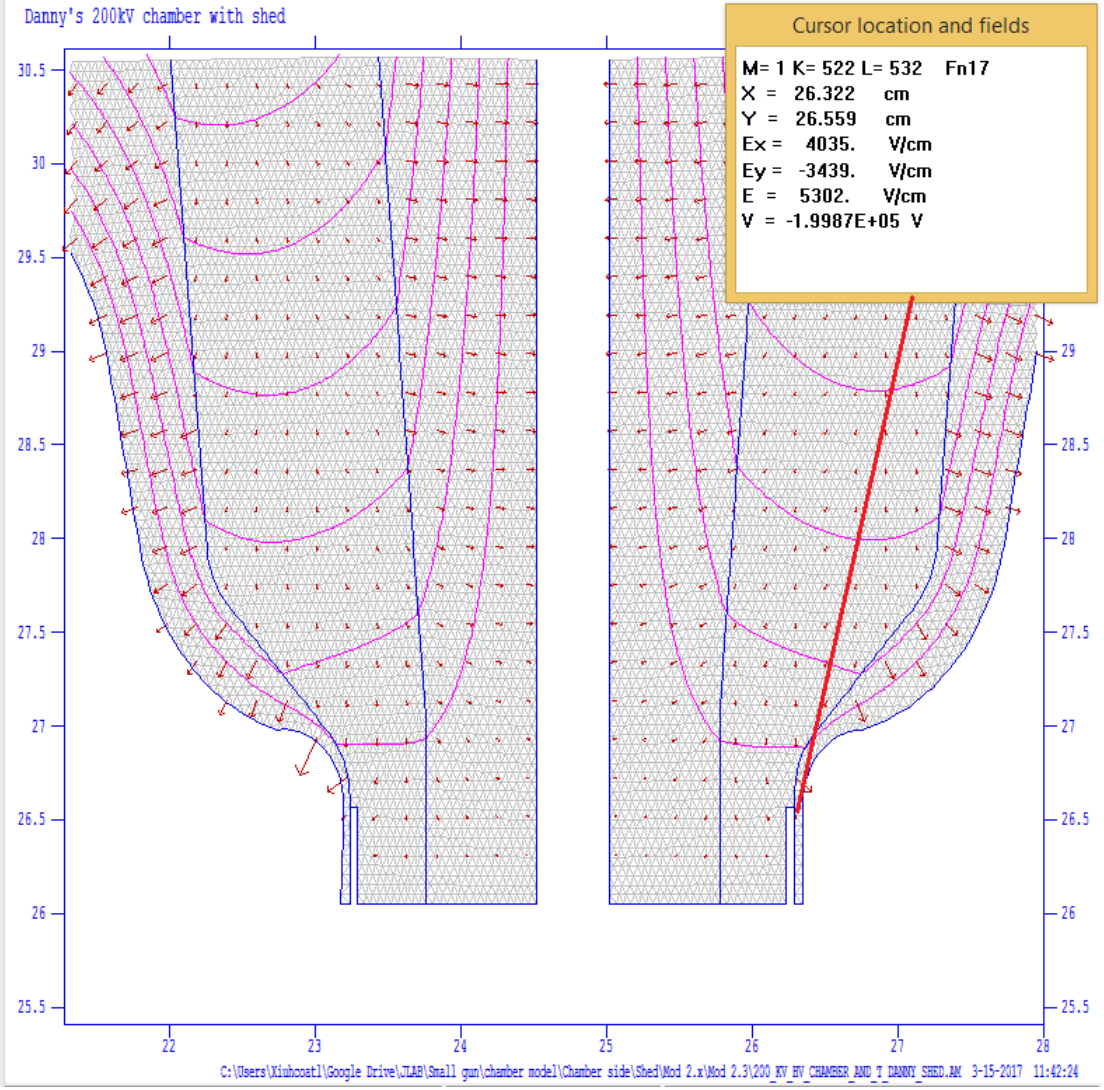
Baseline (left) vs Shed mod 2.3 (right) -200 kV fields around edges



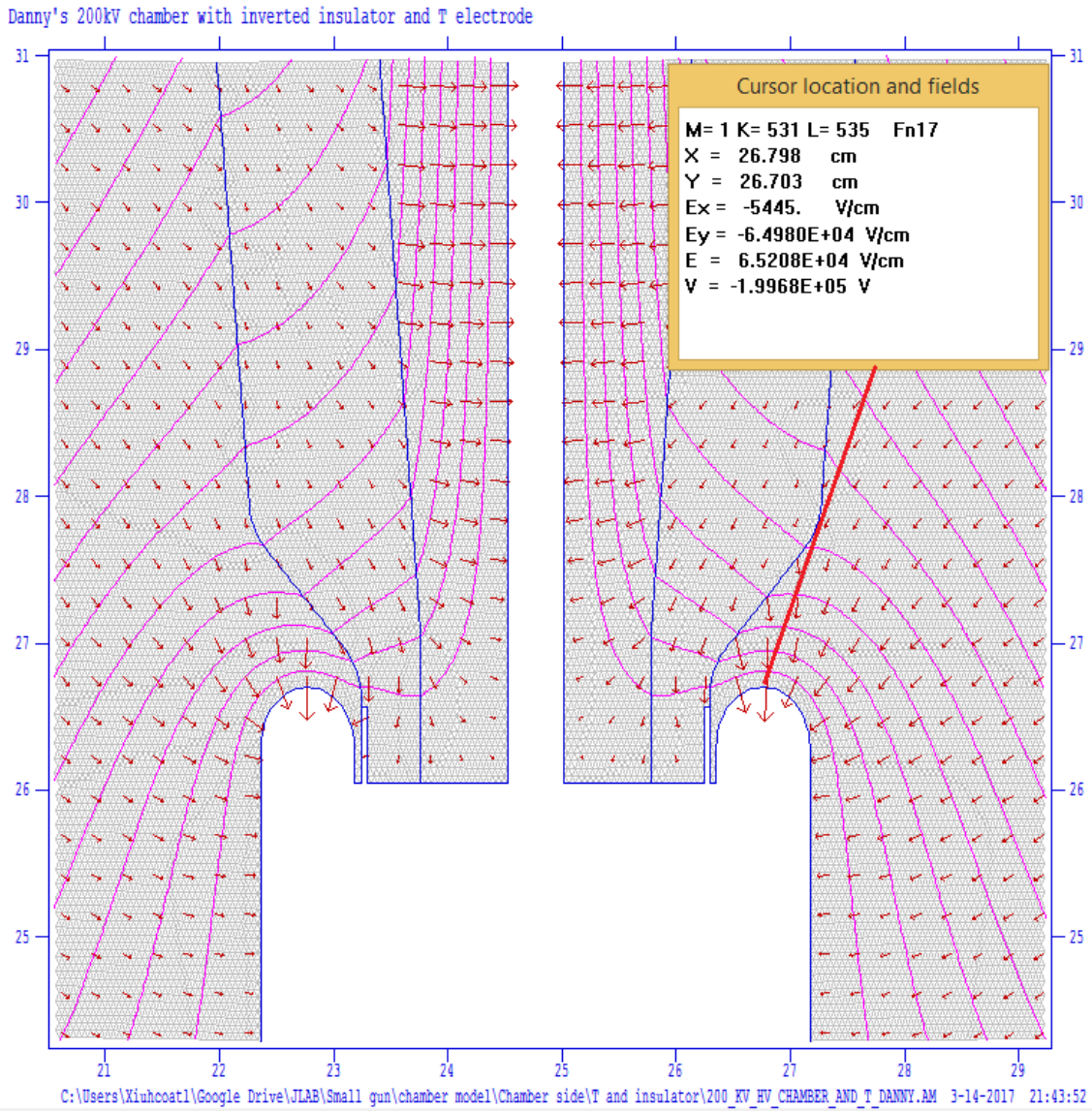


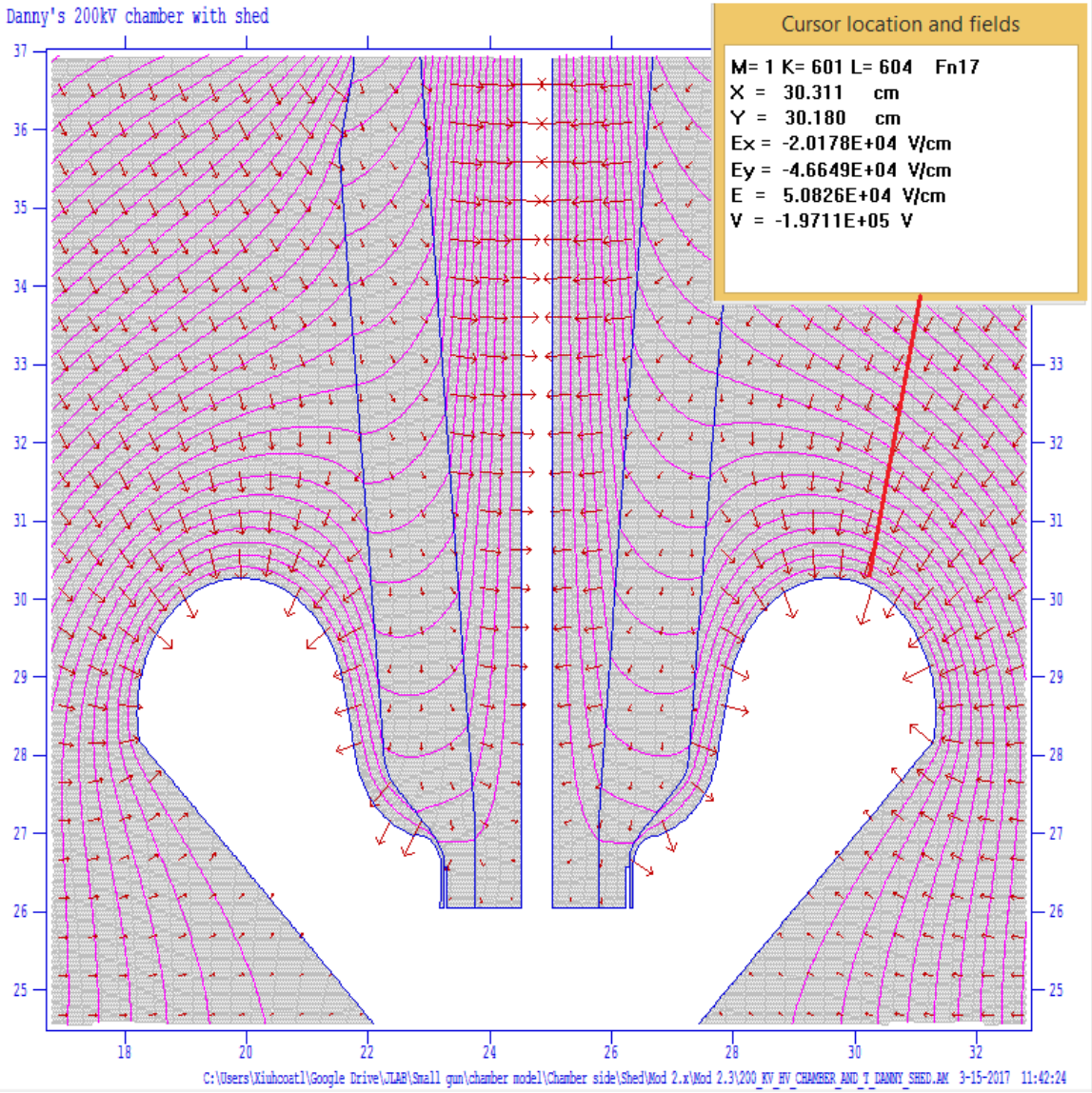
Baseline (left) vs Shed mod 2.3 (right) -200 kV fields triple point



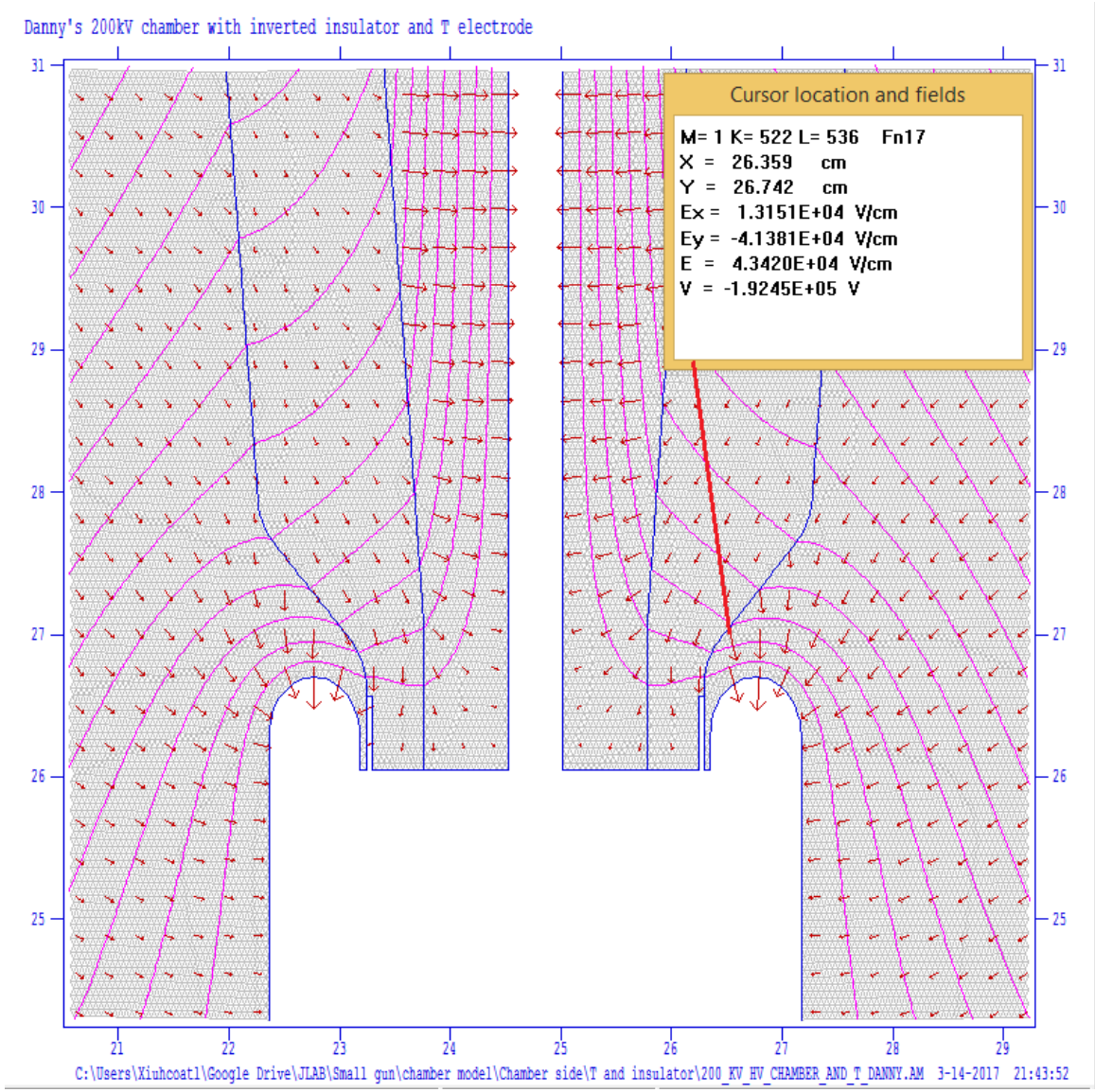


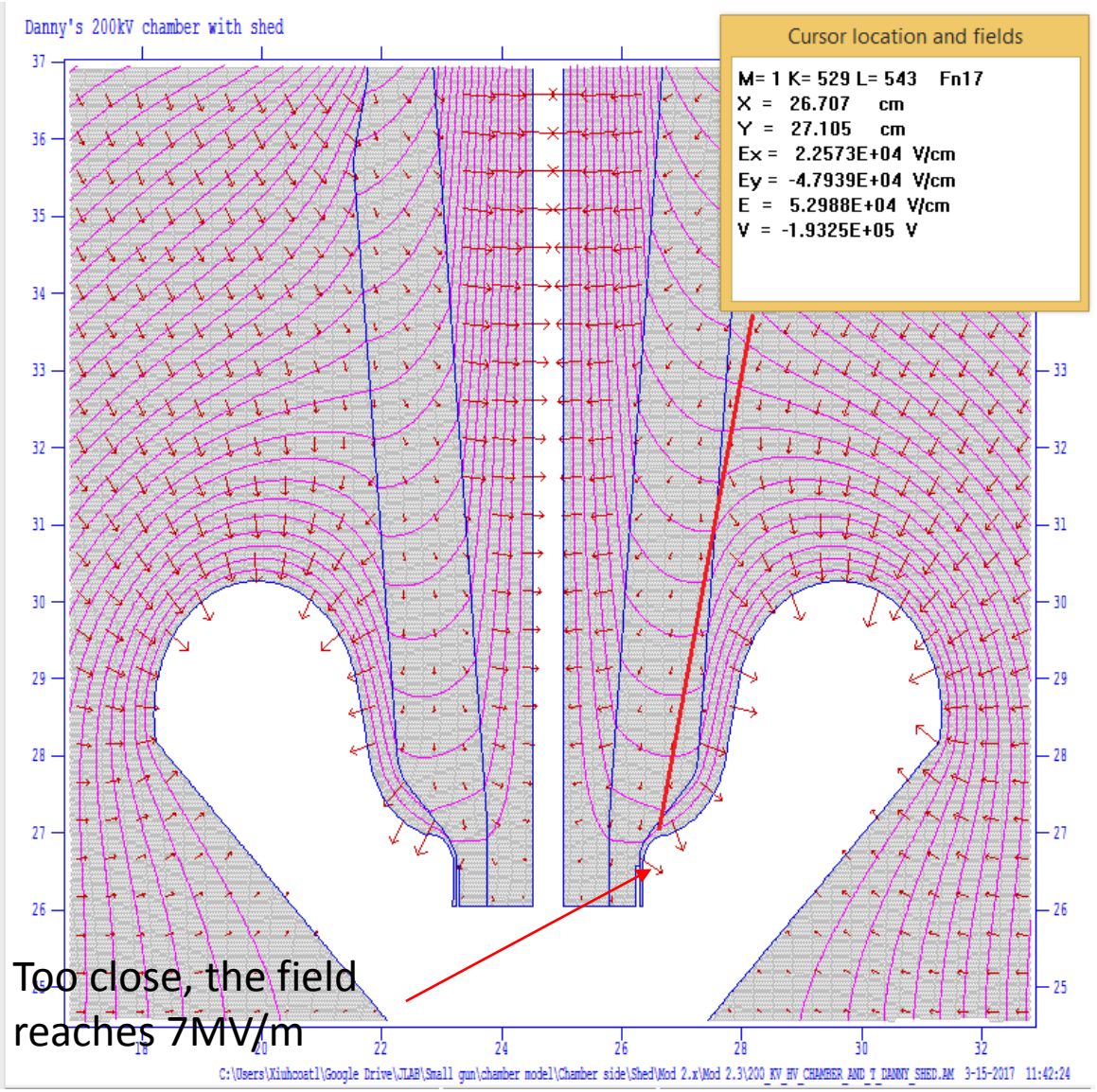
Baseline (left) vs Shed mod 2.3 (right) -200 kV fields cusp



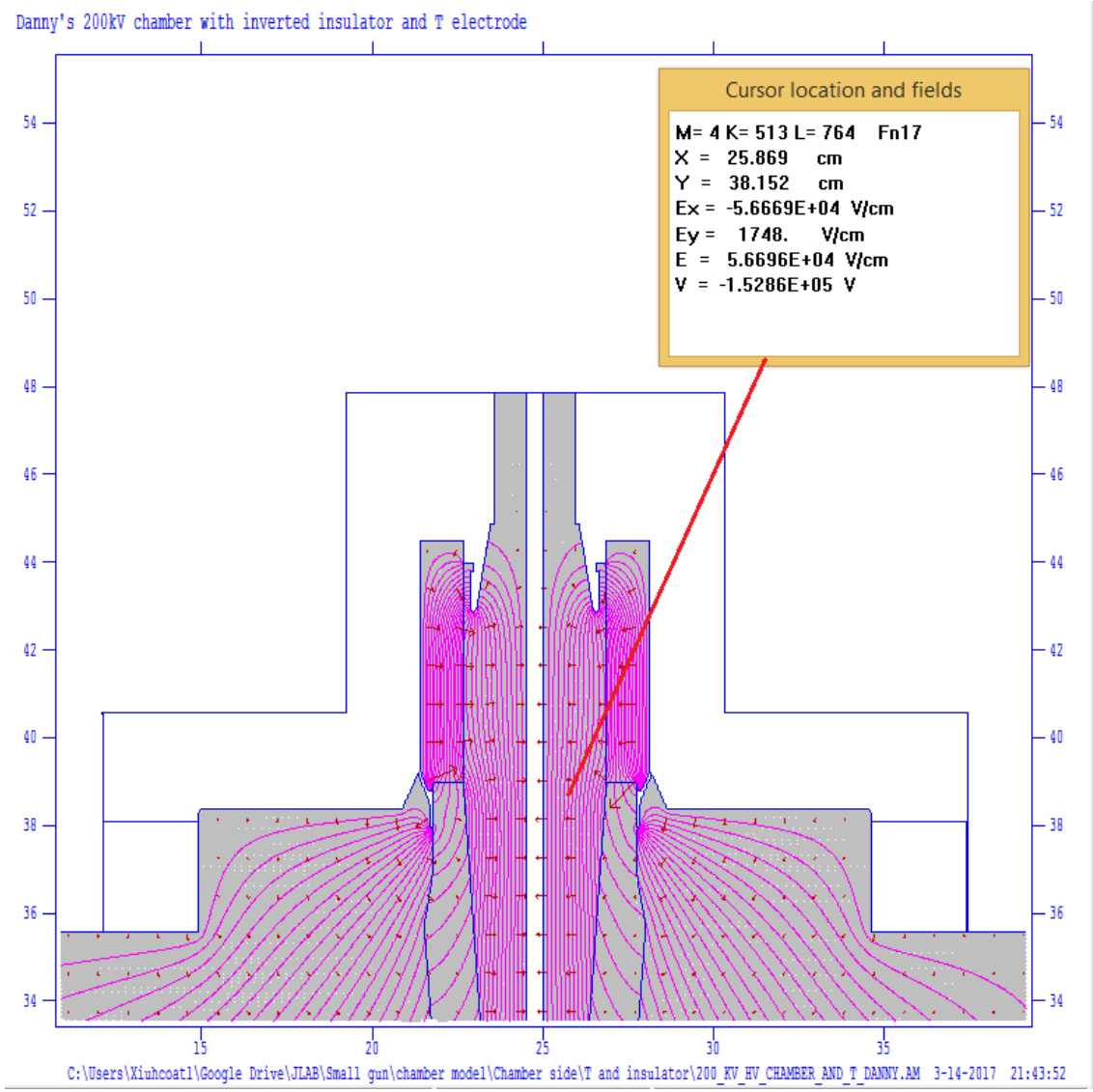


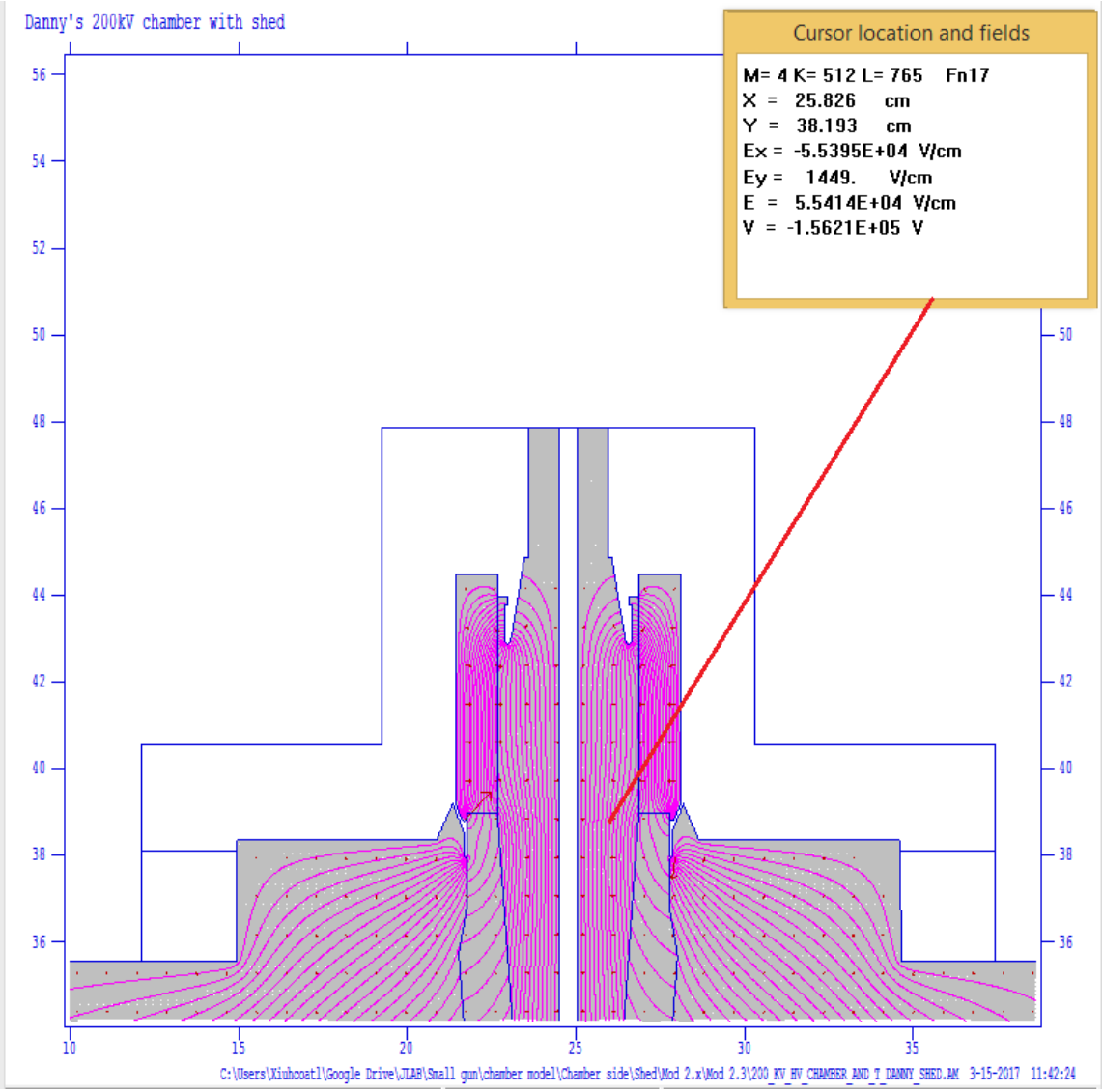
Baseline (left) vs Shed mod 2.3 (right) -200 kV fields insulator interface



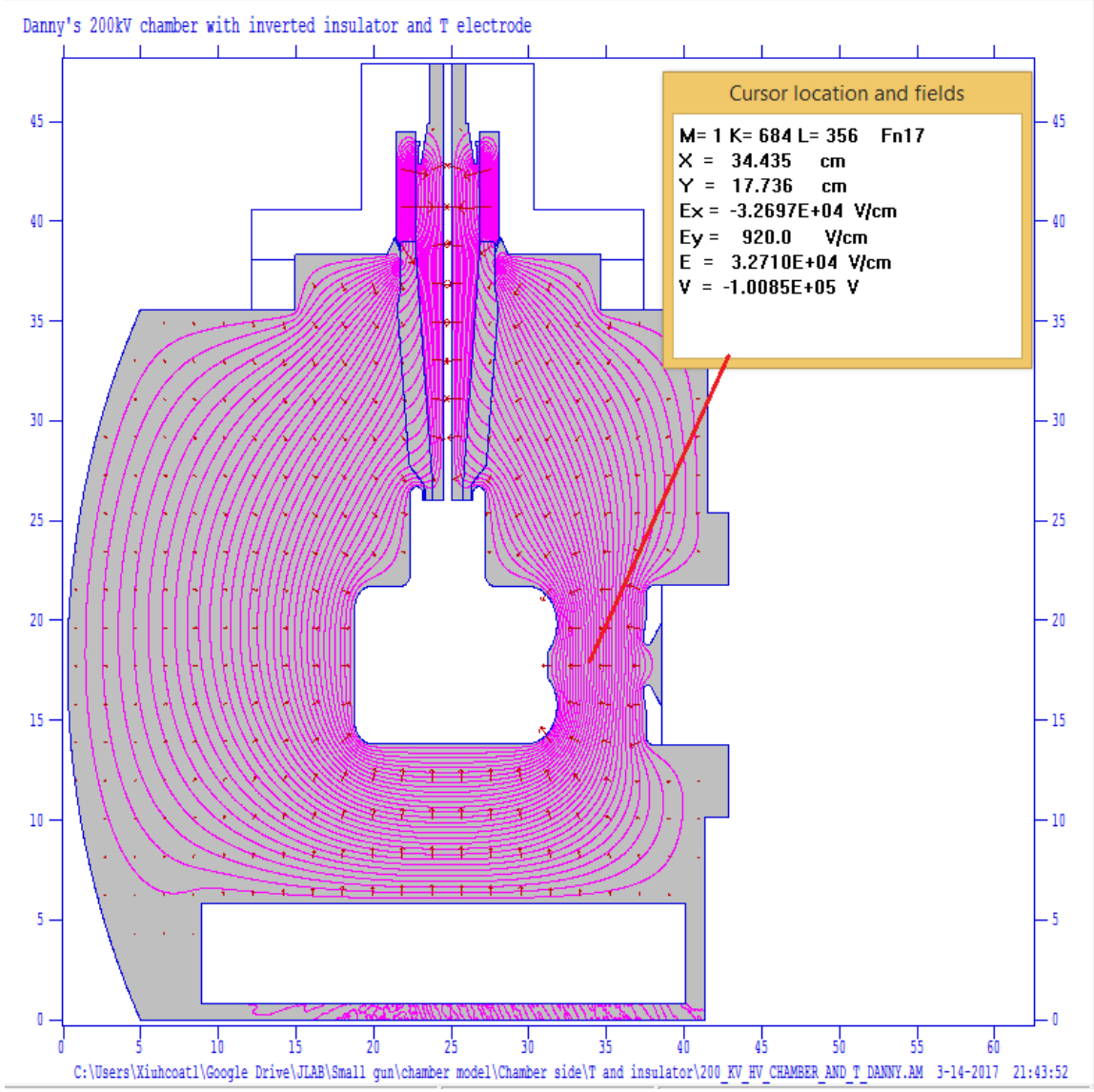


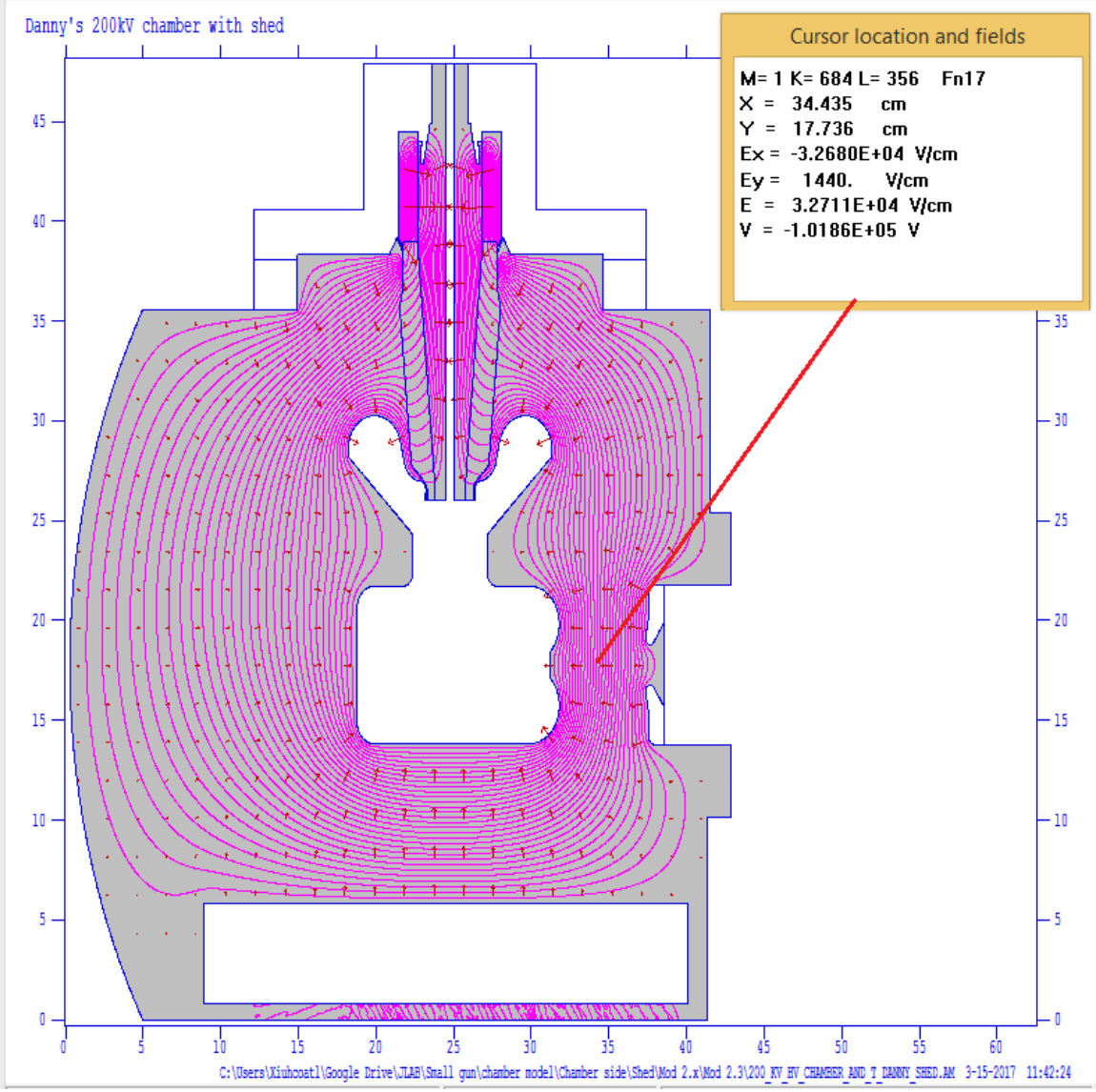
Baseline (left) vs Shed mod 2.3 (right) -200 kV fields upper flange detail



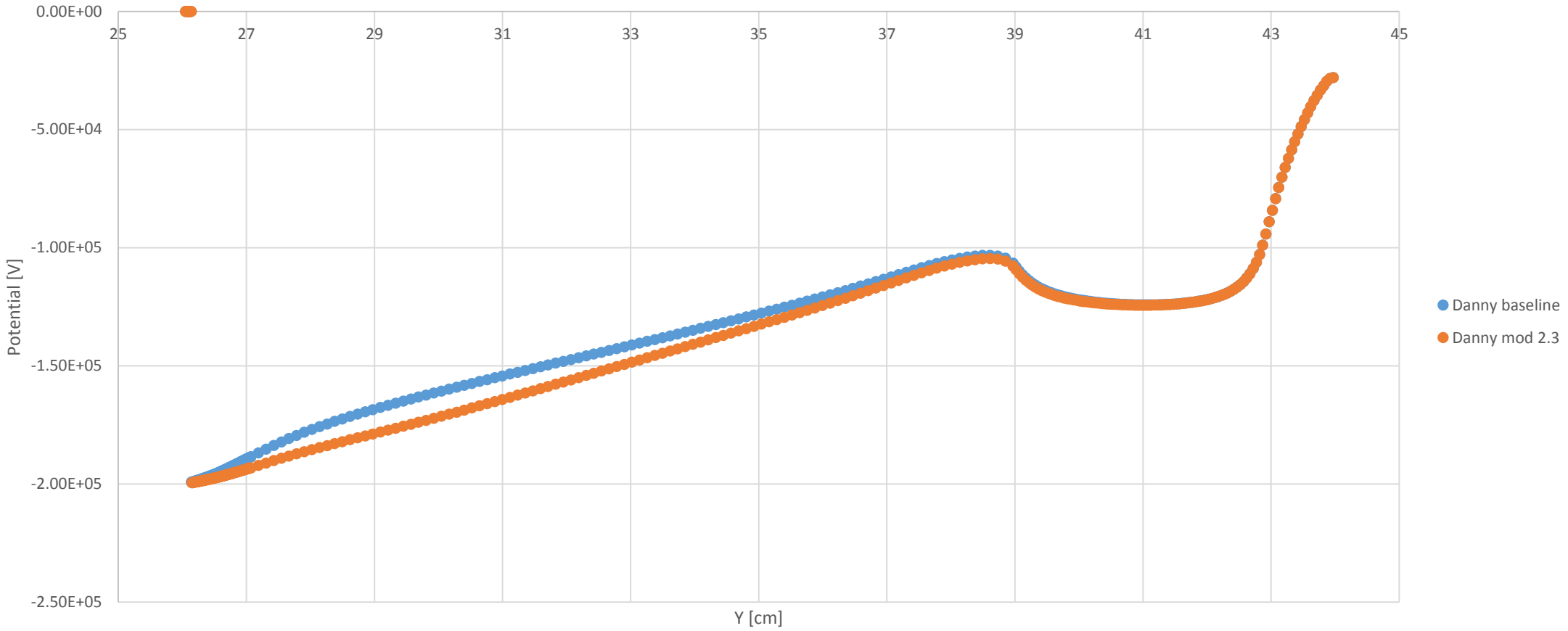


Baseline (left) vs Shed mod 2.3 (right) -200 kV fields cathode-anode gap

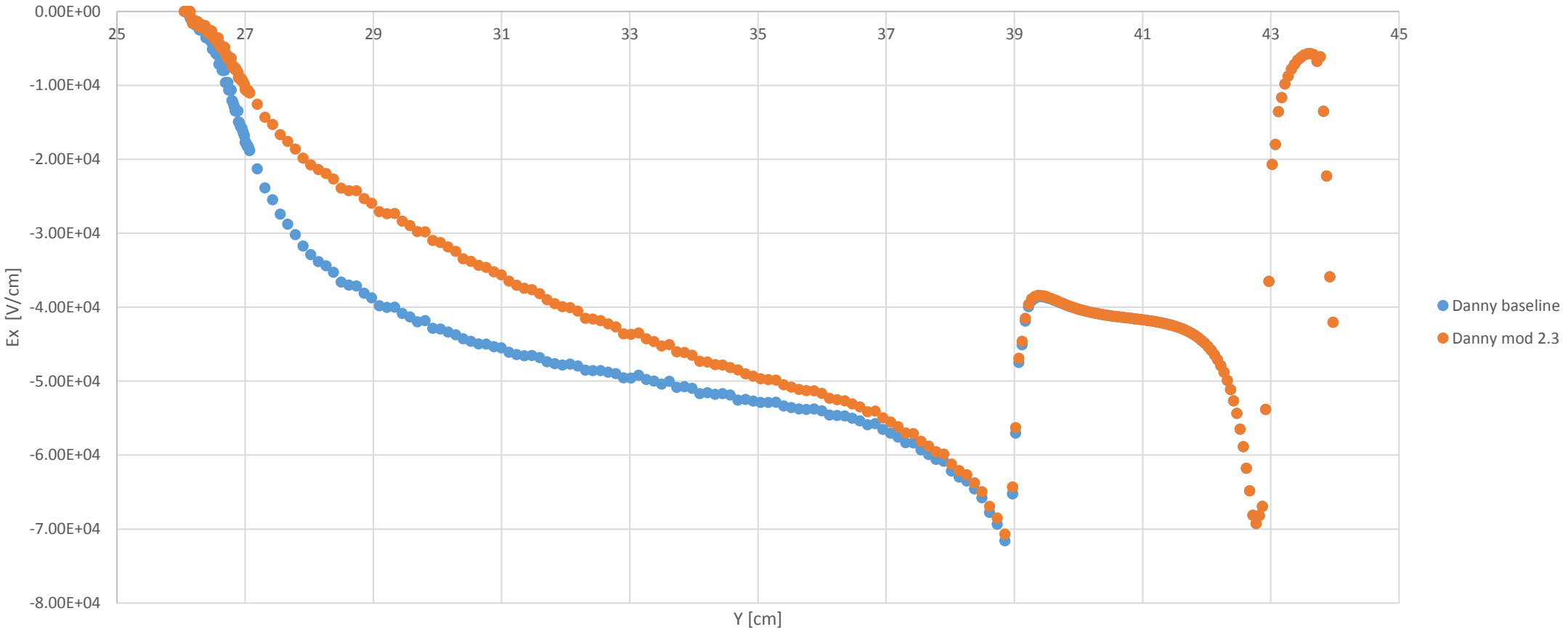




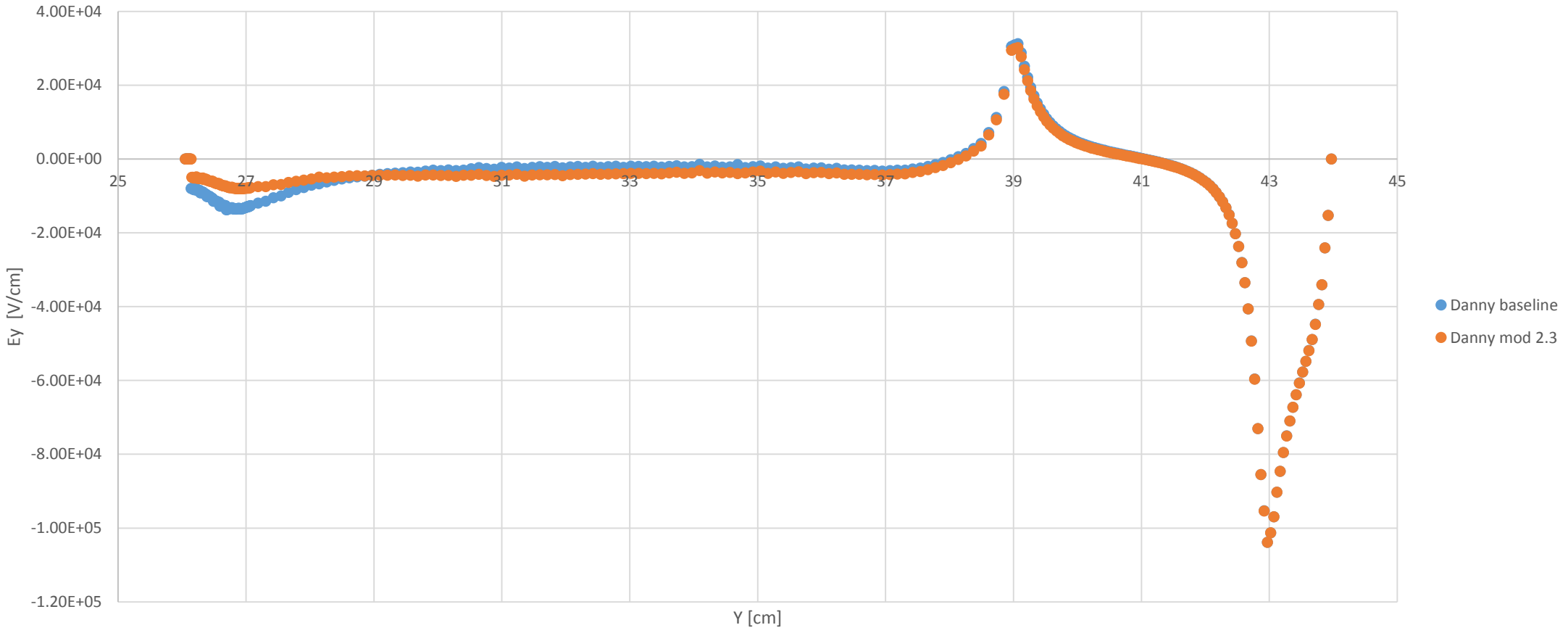
Baseline vs Shed mod 2.3 -200 kV Potentials



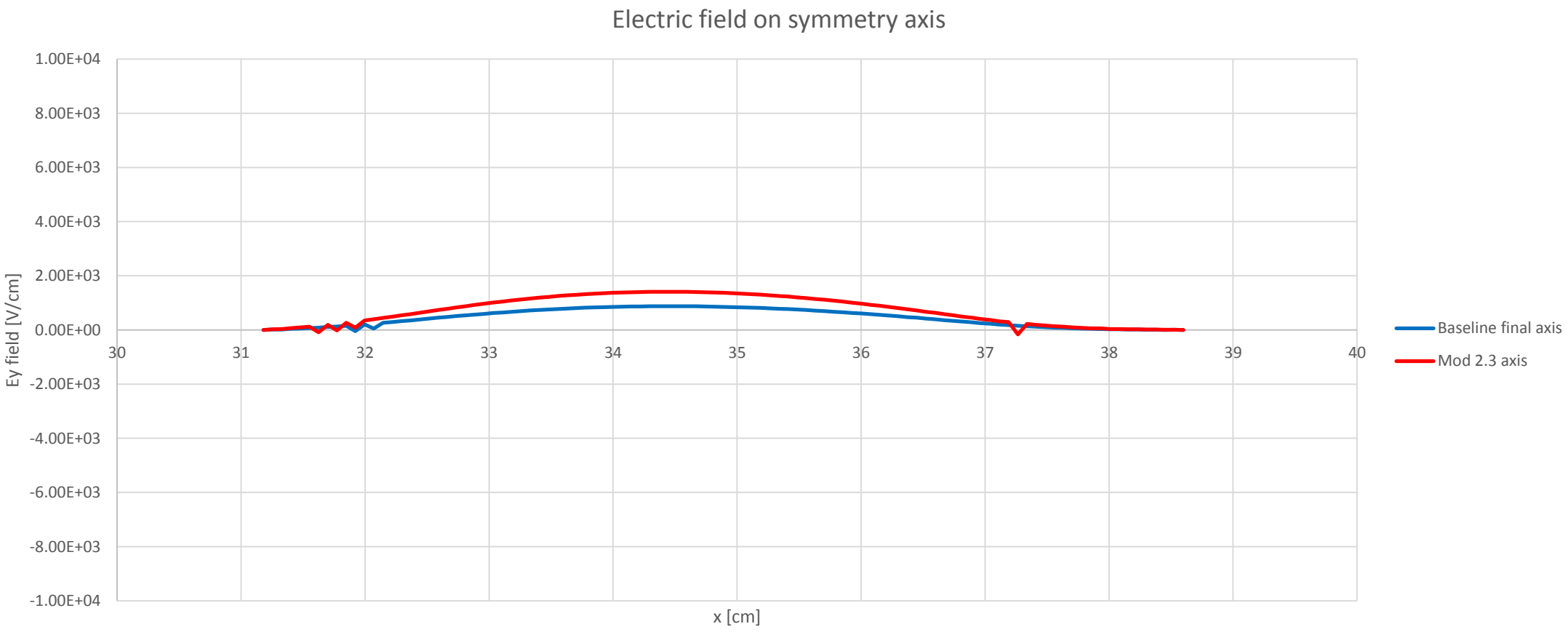
Baseline vs Shed mod 2.3 -200 kV Electric field Ex



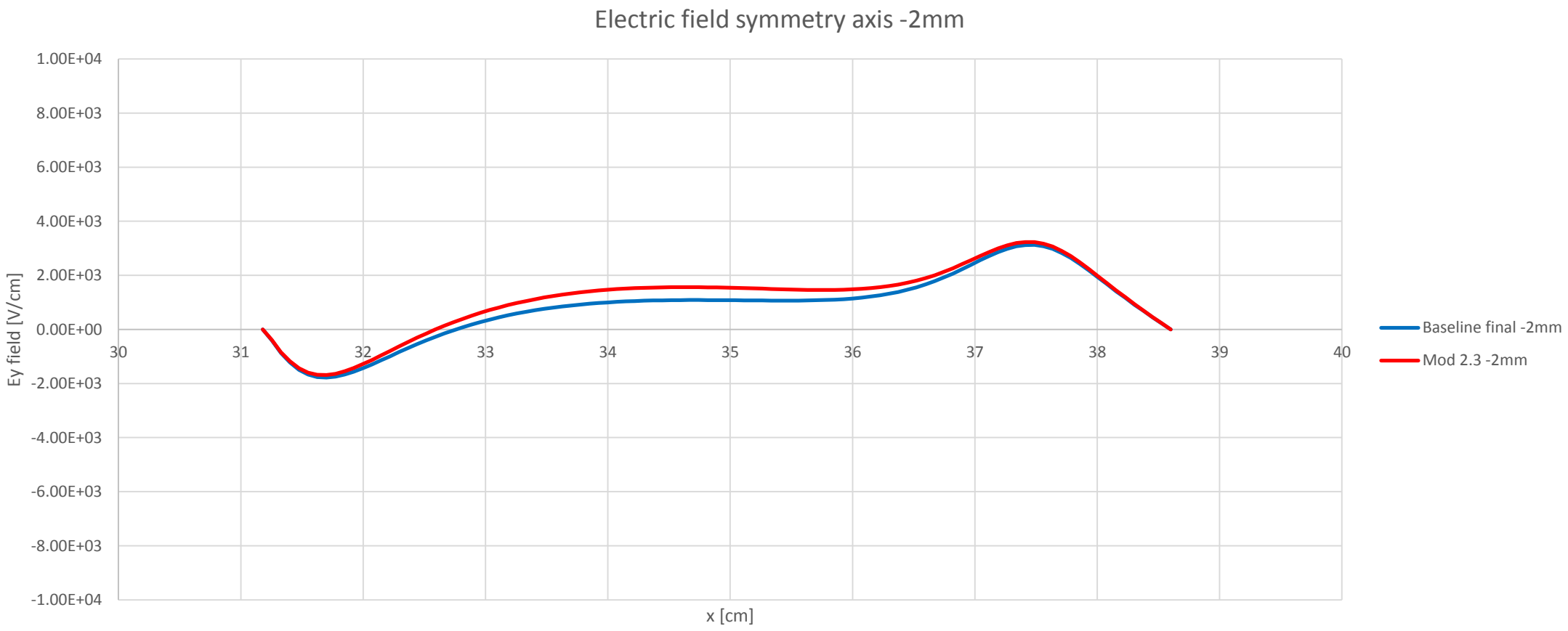
Baseline vs Shed mod 2.3 -200 kV Electric field Ey



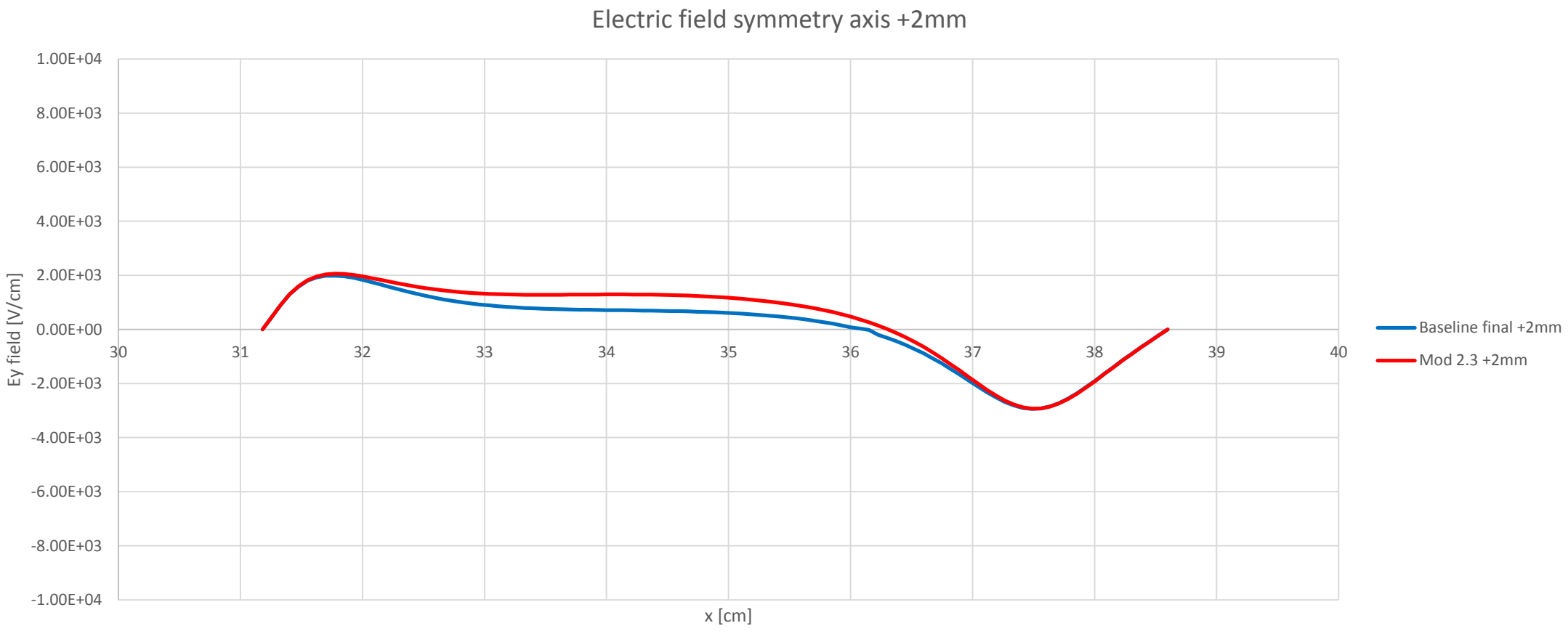
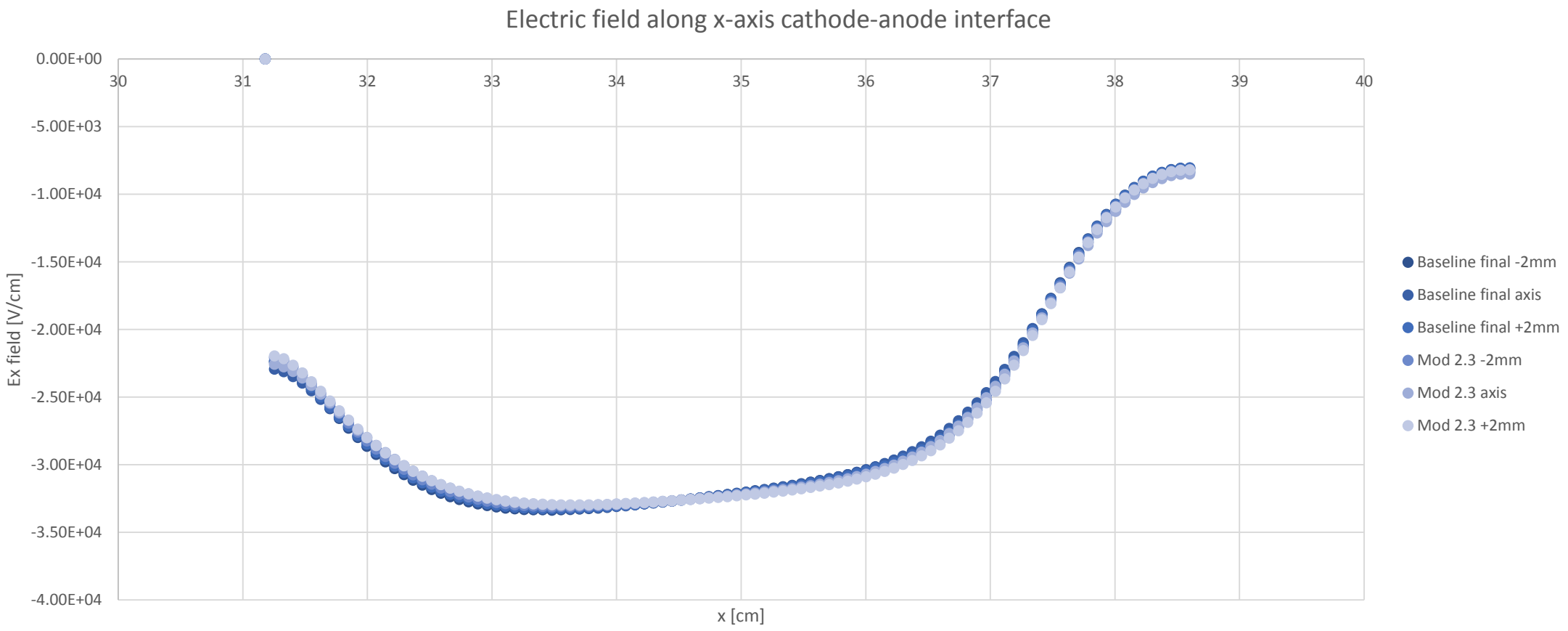
Cathode-anode gap: Ey field



Cathode-anode gap: Ey field



Cathode-anode gap: Ey field



Cathode-anode gap: Ex field