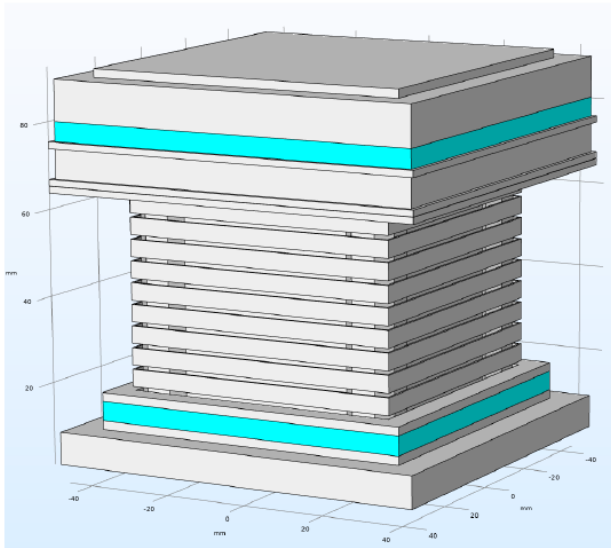# 3D COMSOL SIMs
Ian Schwartz, CJM (Temple U.)

ReD TPC COMSOL 3D Geometry

A. Cathode
1. Height: 11.9mm
2. Thickness: 4.5mm
3. Voltage: -815V
B. Rings (Starting from bottom at 19.4mm; each are 4mm and have 1mm spacing)
1. -715V
2. -615V
3. -515V
4. -415V
5. -315V
6. -215V
7. -115V
8. -15V
9. +85 V
C. Grid
1. Height: 66.4mm
2. Thickness: 0.05mm
3. Voltage: +195V
D. Anode
1. Height: 76.45mm
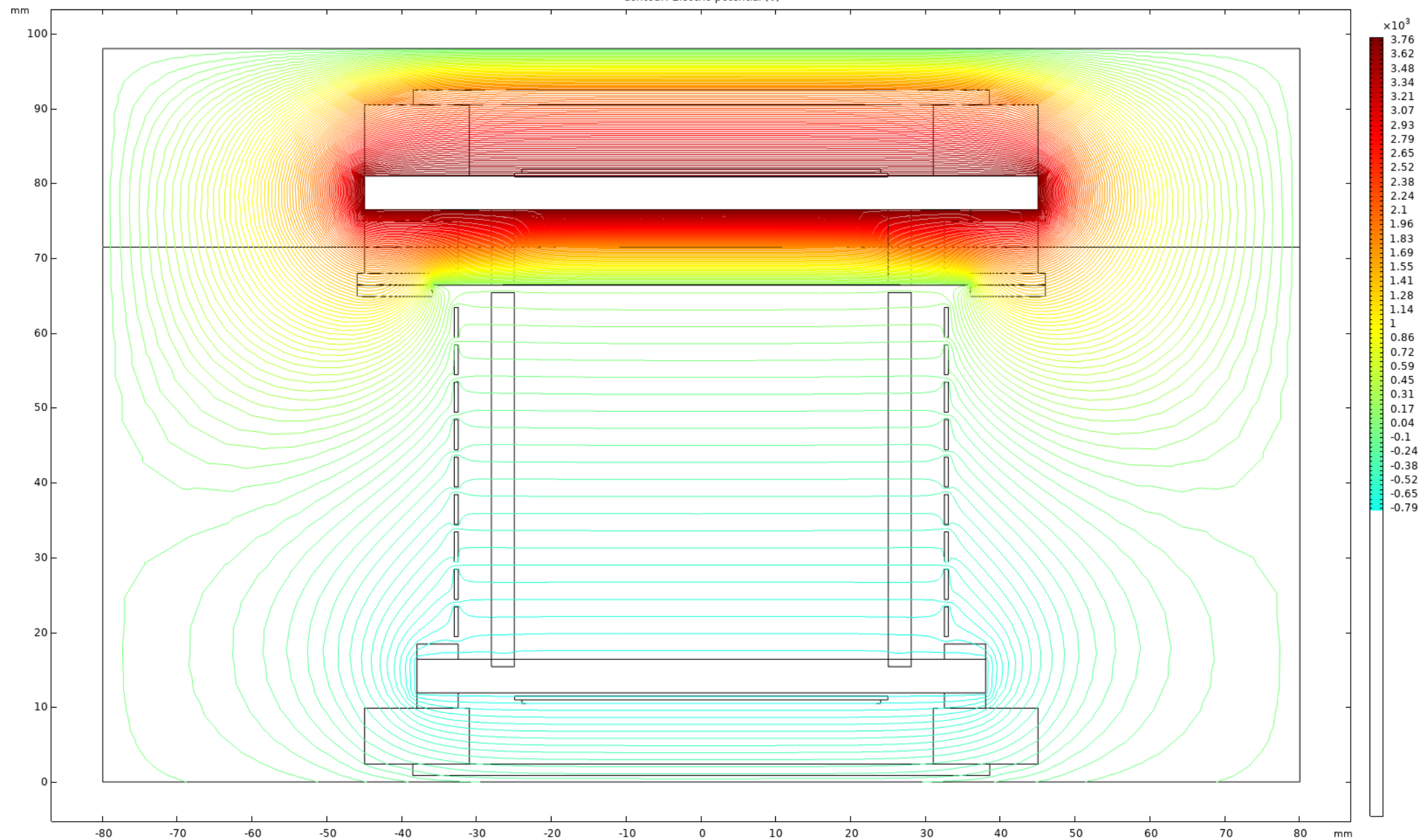2. Thickness: 4.5mm
3. Voltage: +3780V
E. Liquid Argon
1. Height: 71.46mm (5mm above top of grid)

Yury says argon depth is wrong- maybe some other details need adjustment
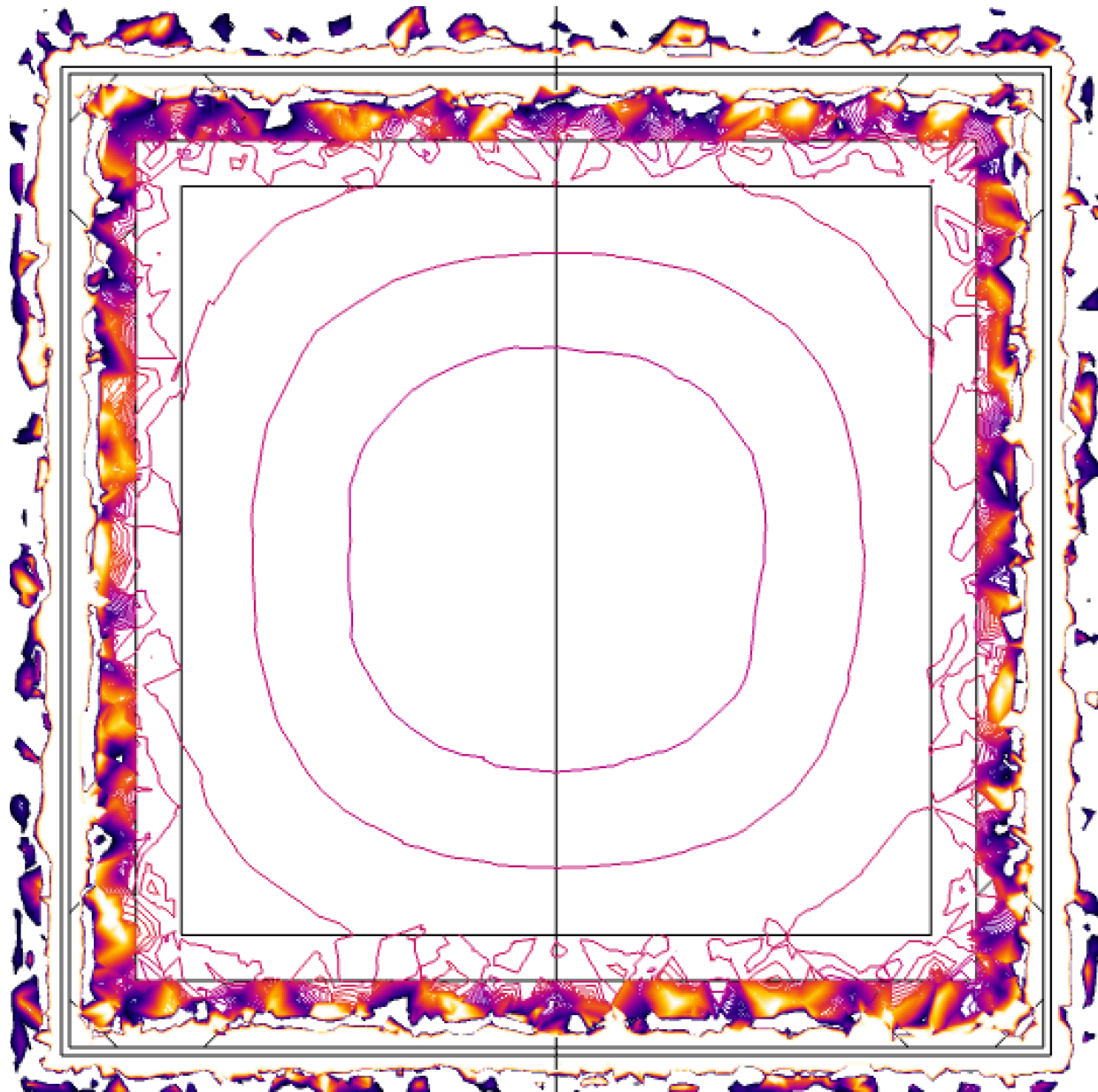
Overview of Electrostatic Potential Solution

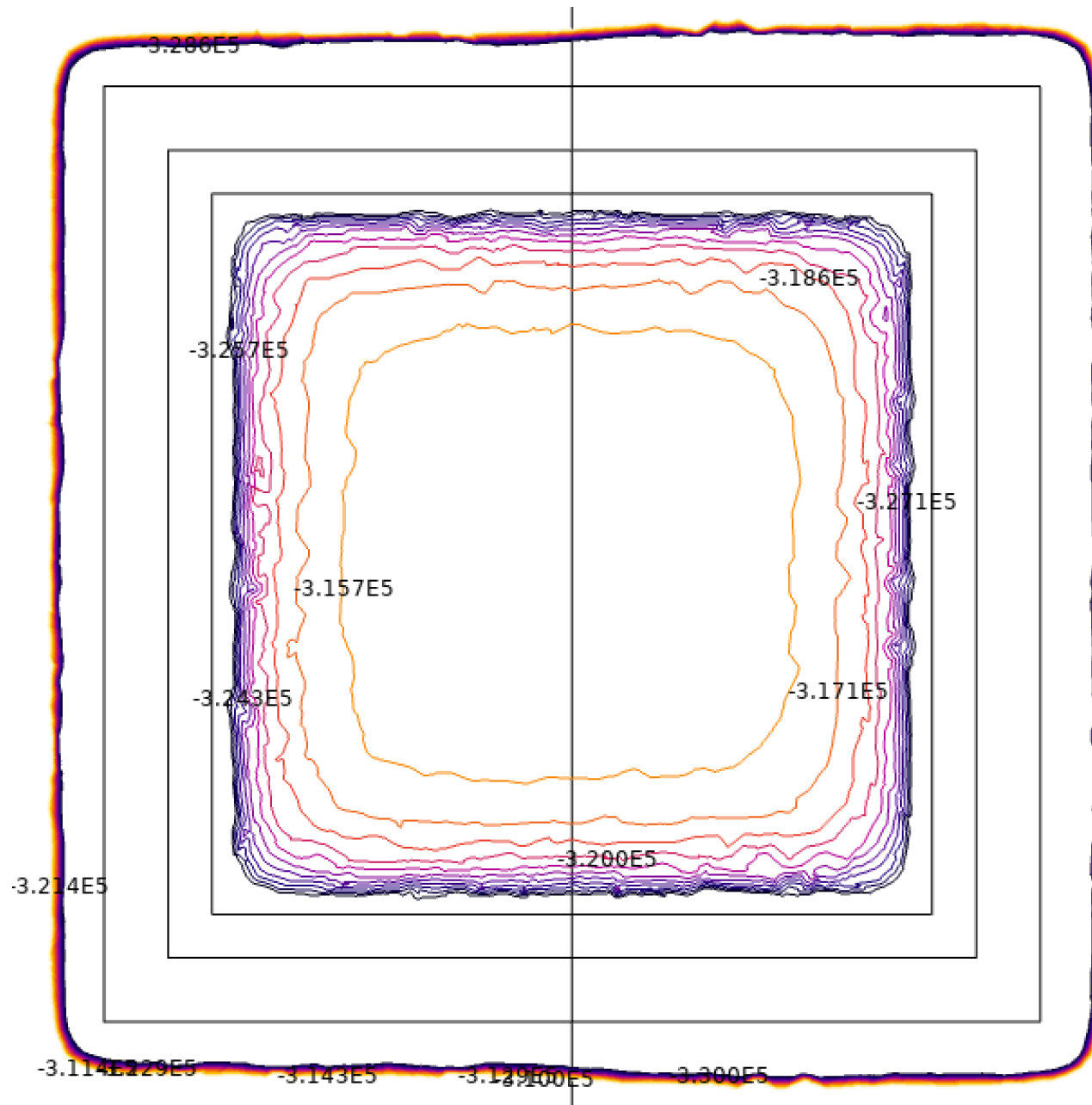Contour: Electric potential (V)

Cut plane thru center; field is very flat, three regions clearly distinguished

E_z contour map in vertical midplane- 0.4 V/cm contour interval

E_z contours in extraction region- 15 V/cm contour interval.
Does not look beautiful. May need some change at boundary.

E_z in multiplication region- 14 V/cm contour interval.
Does not look beautiful- may need some changes at boundary.