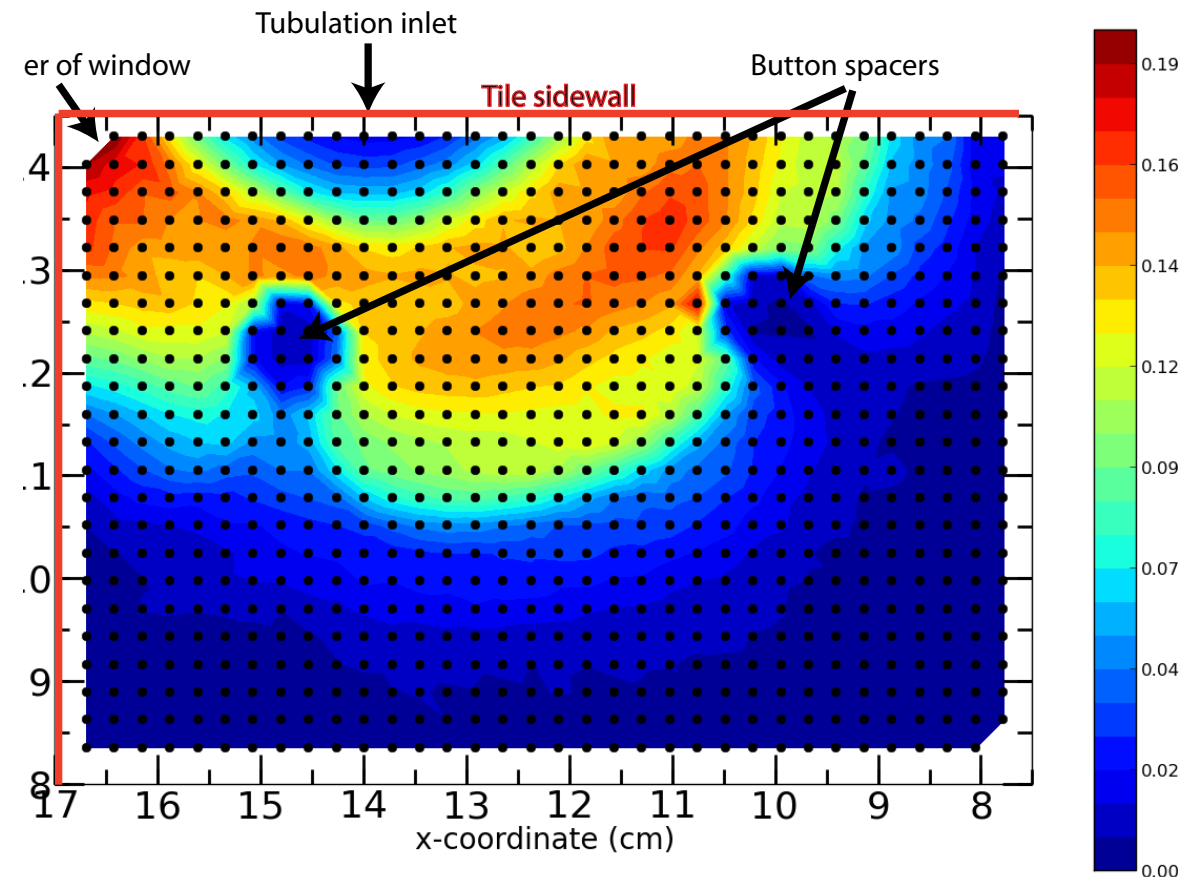


Photocathode data: Tile 17

Qualities:

- ICE ceramic tile, 99.8% pure alumina
- Initial leaks $1e-5$ in three locations
- Vac-sealed and re-baked down to $1e-8$

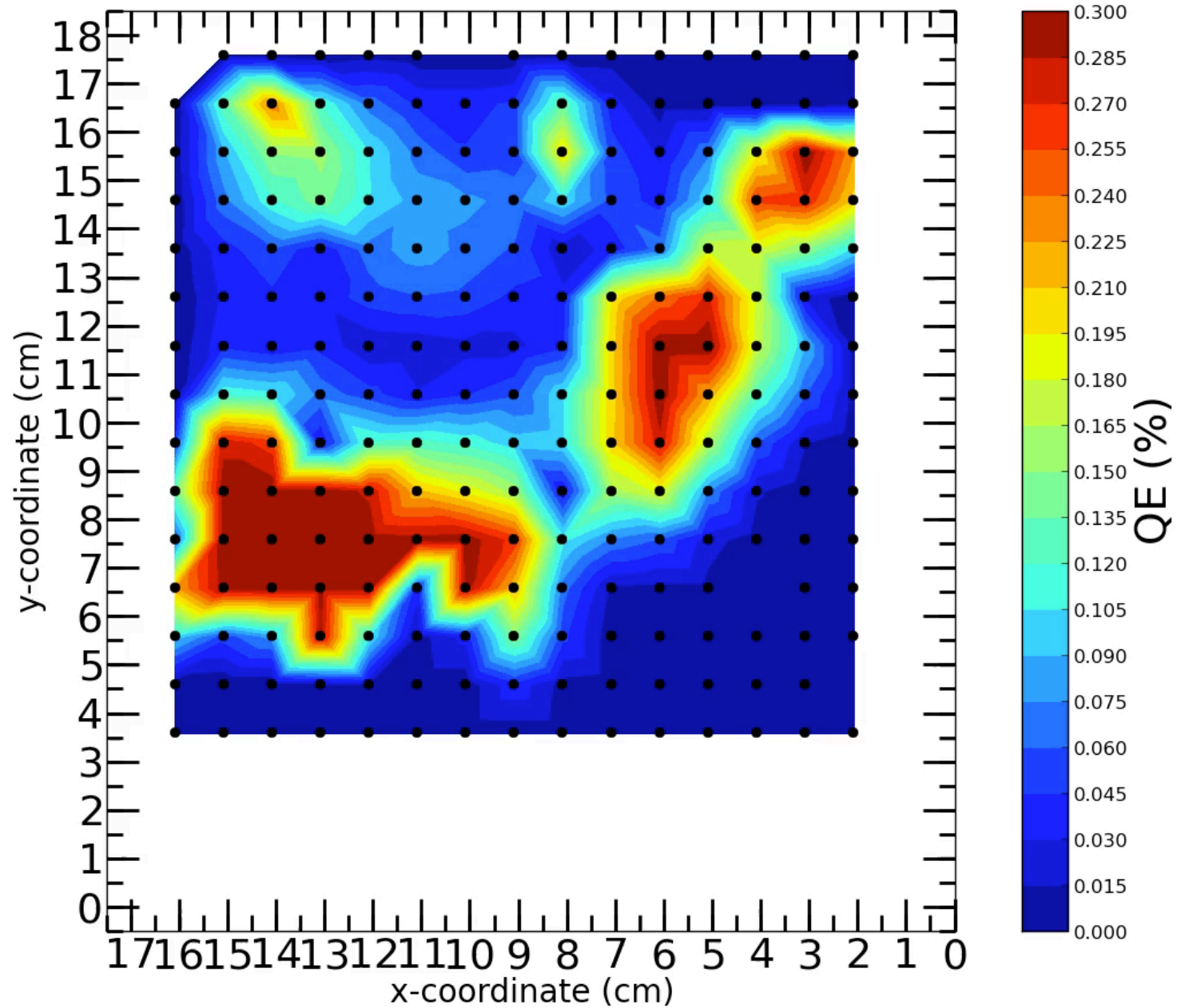


This tile peaked our interest in resistance of plates

Rough story:

1. Before cesiation, full stack is 40Mohm
2. Cesiating in pulses, procedure is complicated
3. After cesiation, full stack is 35Mohm
4. Laser induced pulses with a single pickup pad through capacitive layer
5. Scrubbed with UV light, 16Mohm and 4 days later the full stack is at 7Mohm
6. Heat up to 100C for one day and the stack is at 40Mohm at room temperature

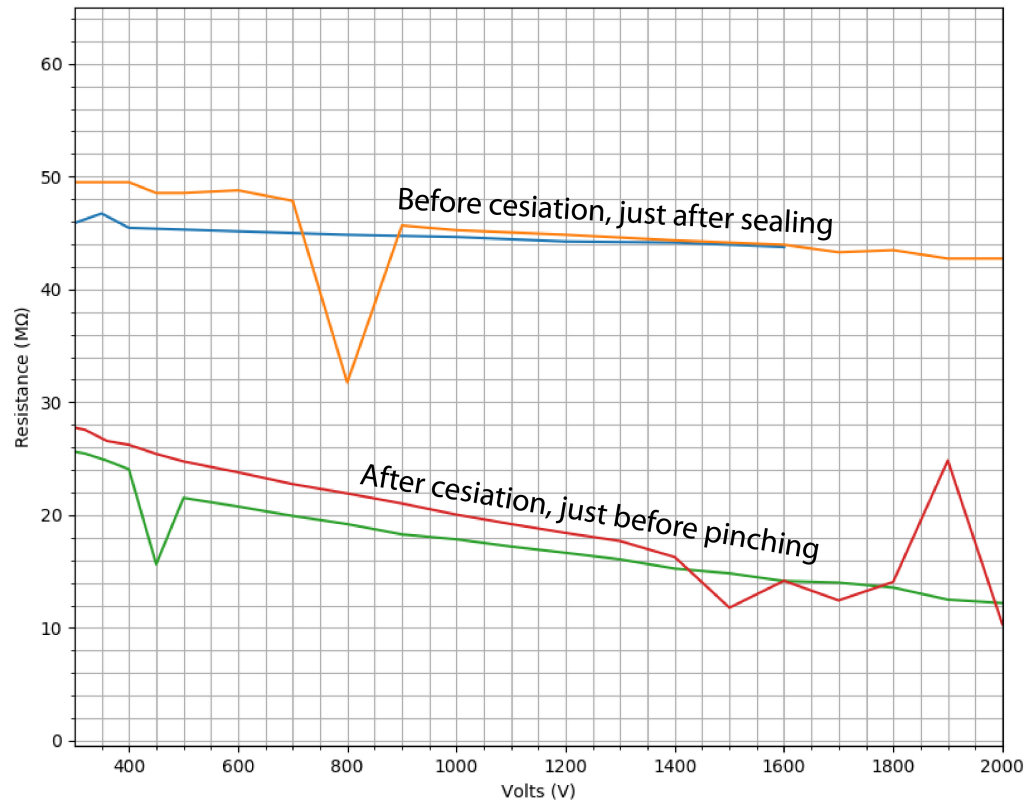
07/27 16:38:07 to 07/27 17:30:04



Photocathode data: Tile 21

Qualities:

- ICE ceramic tile, 99.8% pure alumina
- Initial leaks $\sim 2e-7$ in two locations
- Vac-sealed down to $2e-9$



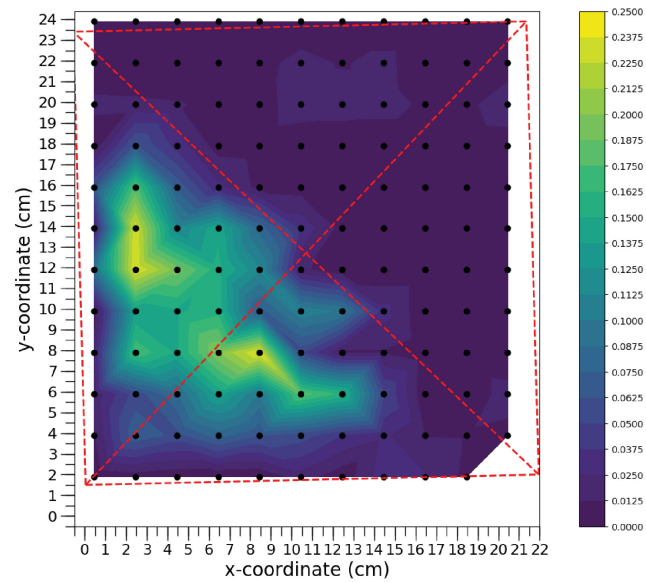
Procedure:

1. Open Cs valve, source at 145C
2. At 50 h, increase the source temperature to 185C
3. Close 2 hours after reaching hotter temperature

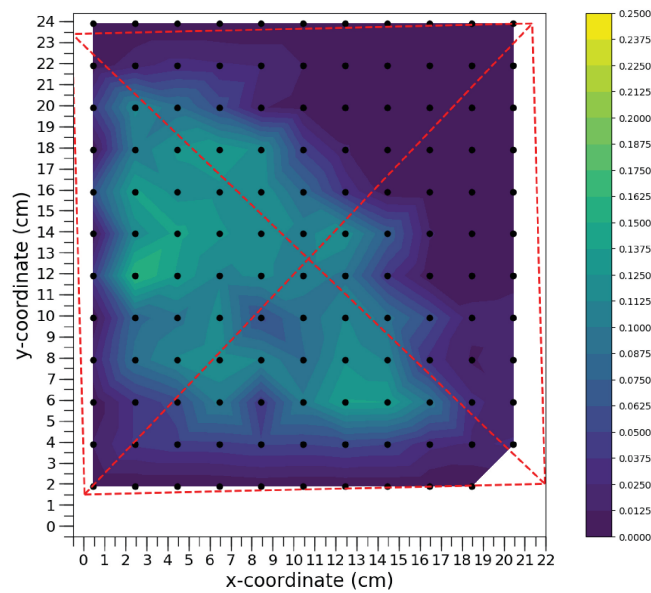
Result:

- Photosensitivity everywhere (not uniform, >30%?)
- Reduction in total stack resistance
- BUT, MCPs survive enough to produce high gain pulses on 30 strip-line capacitive readout
- No resistance change after 140h of being valved off
- Photocathode survived and pulses persisted after being squinshed
- Spark discharge at low voltages 3 days after squinsh-off

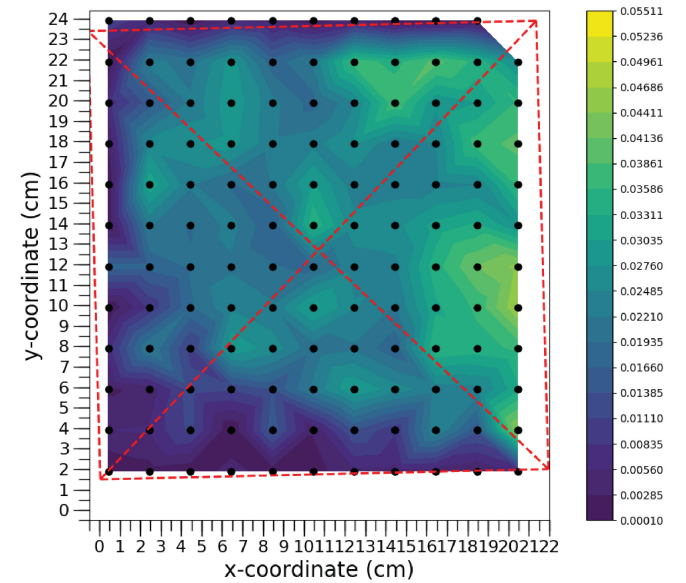
After 24 hours of cesiation



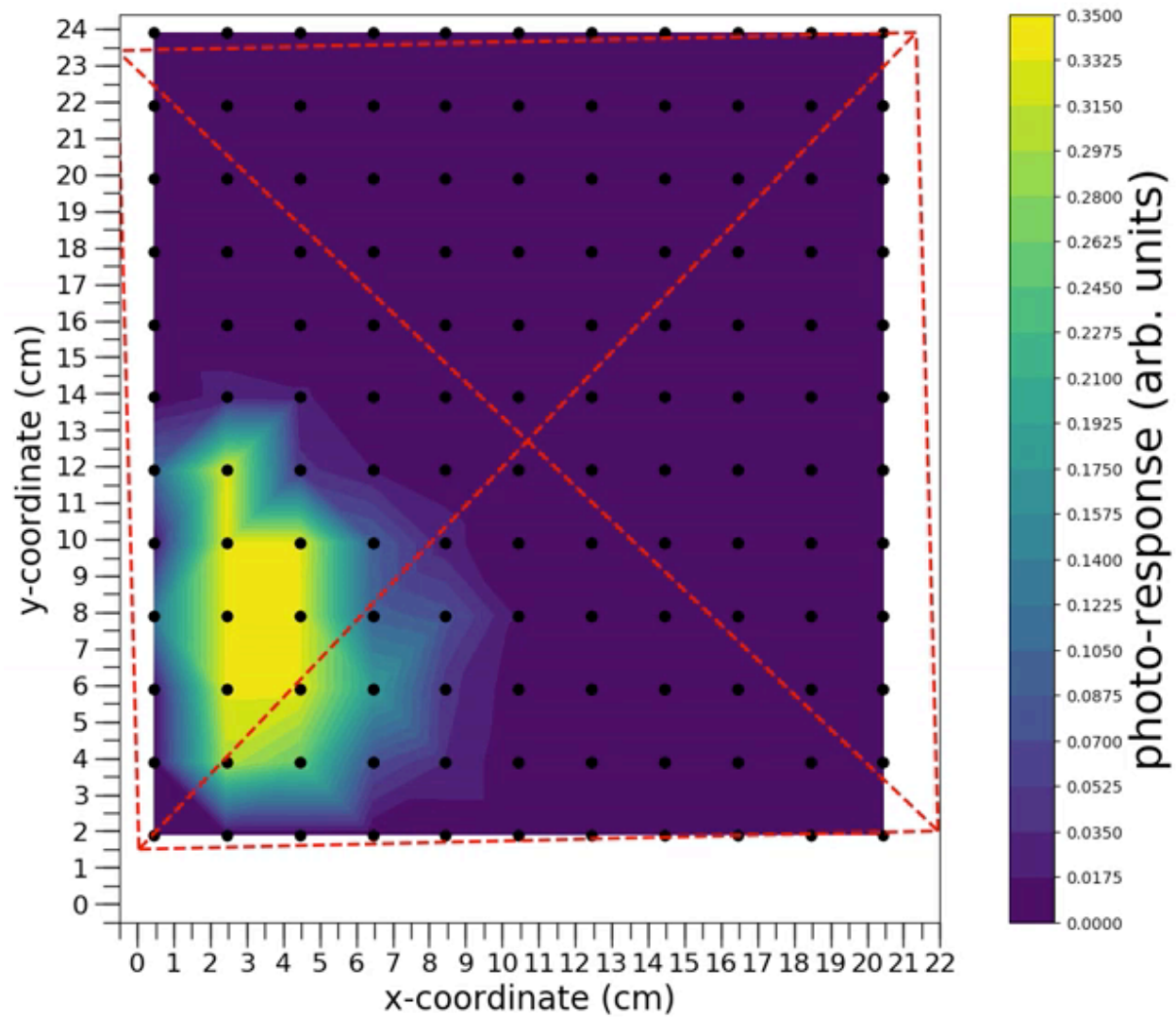
After 48 hours of cesiation



Increase j-tube from 145C-190C, cesiate for 2 hours then close source, and sit for 50 hours



12/13 17:33:06 to 12/13 18:48:10



Photocathode data: **Tile 22**

Qualities:

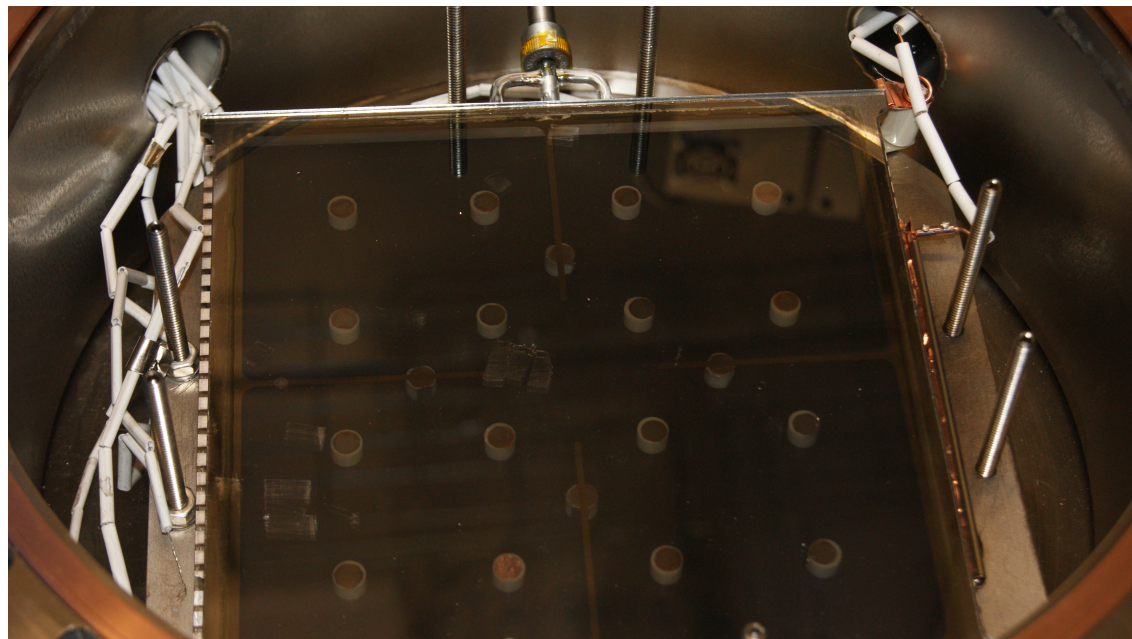
- Glass tile, Clausing metalized
- Initial leak totals $1e-6$
- Vac-sealed down to ???

Procedure: similar to Tile 21

1. Open Cs valve, source at 190C
2. Close Cs valve after 52 hours

Result:

- No photo-response maps. But...
- In the center, left, and right edges of the window the photo-response is the same order of magnitude as that of Tile 21



Proposed next steps

- **We are itching to have an accurate QE measurement**
 - External voltage divider provides simple QE measurement, picked right off the photocathode
 - External voltage divider gives isolation to measure MCP resistances
- Copper j-tube source
 - Pinch off distilled Cs liquid from glass ampoule
- Only after an accurate QE measure can we learn whether we are in the ball park of 1%

