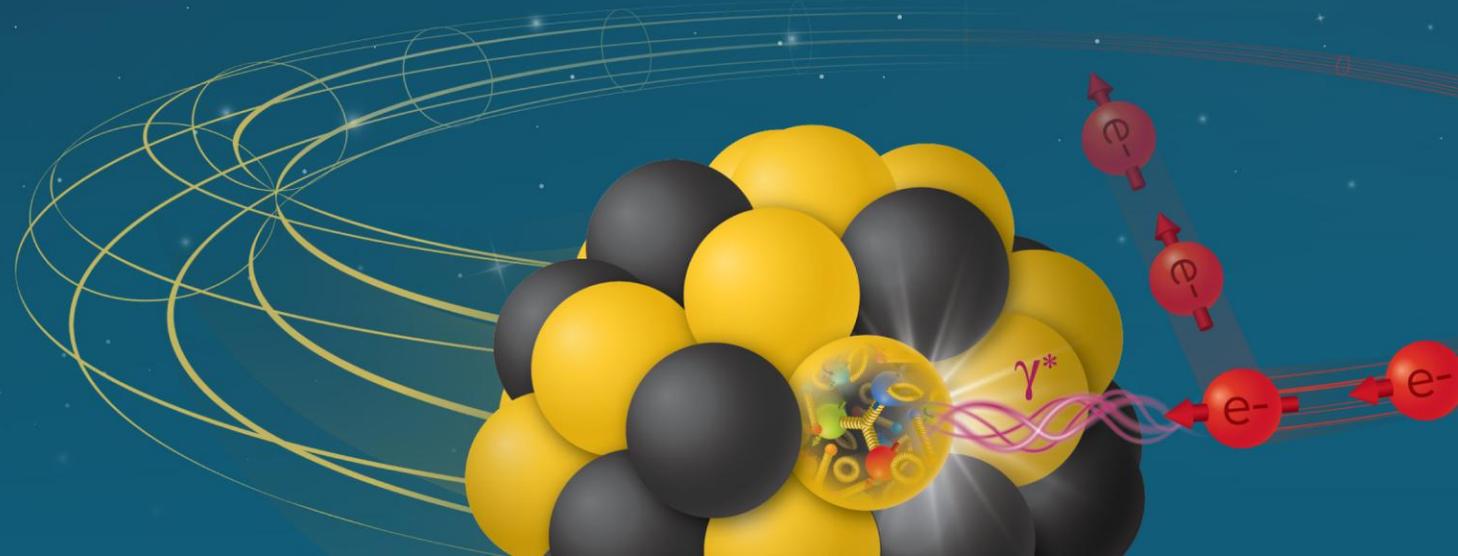


Barrel Outer Tracker / MPGD (μ RWELL)

Triple I Engineering Meeting Update (02092026)

Seungjoon Lee (Jlab)

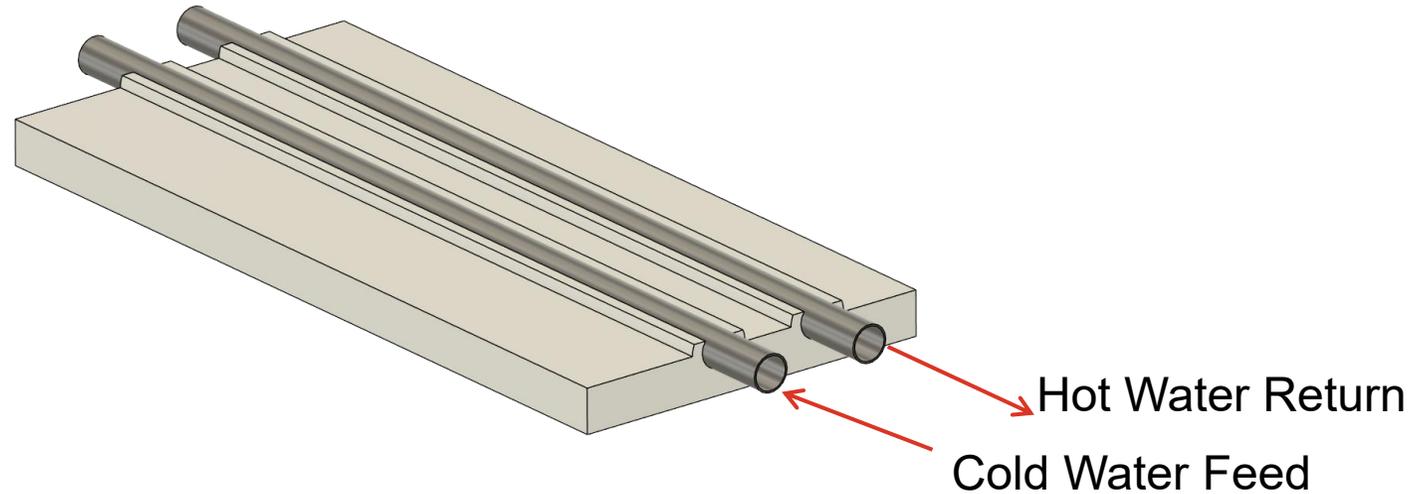


Update - Facility

- Jlab MPGD Facility is moving foreword.
- Major on going process
 - Ultrasonic water bath
 - Fume hood for vacuum gluing
 - Nitrogen box for GEM foil test
 - Finishing clean room installation

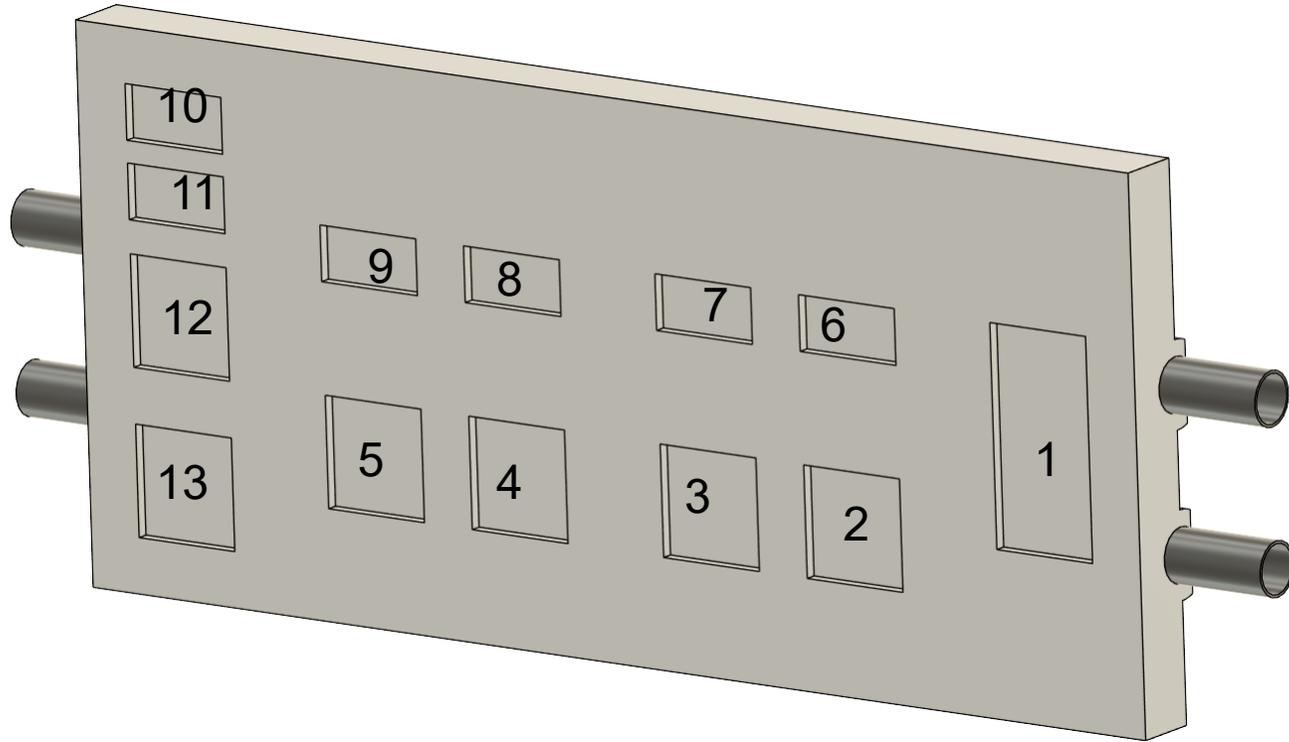
- Detector Parameter Table - Updated

Update – Detector Design



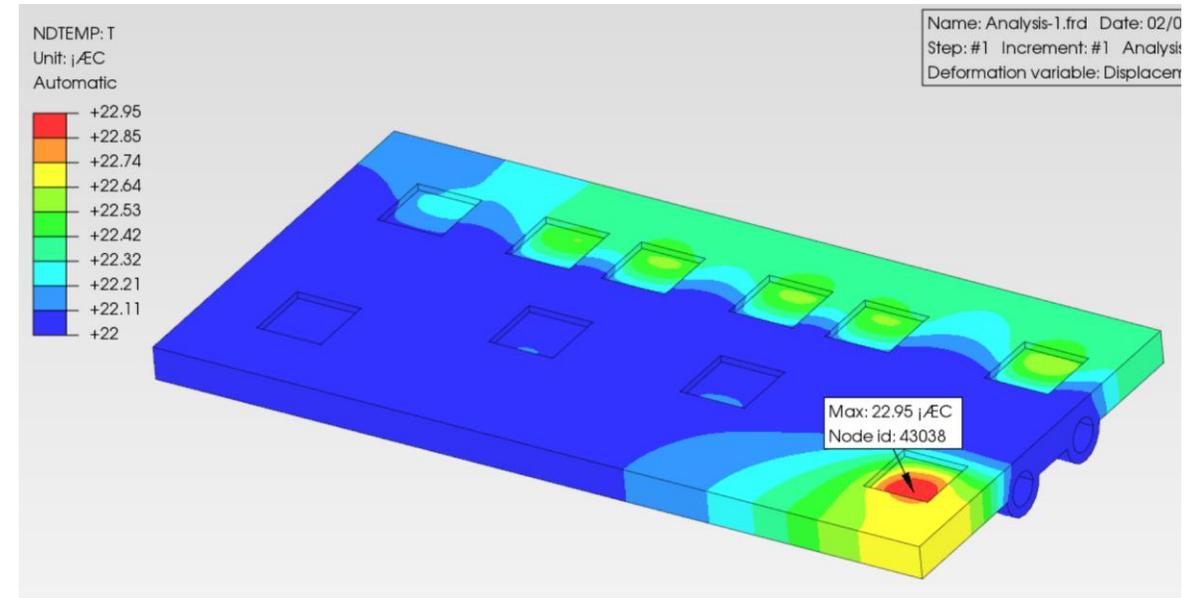
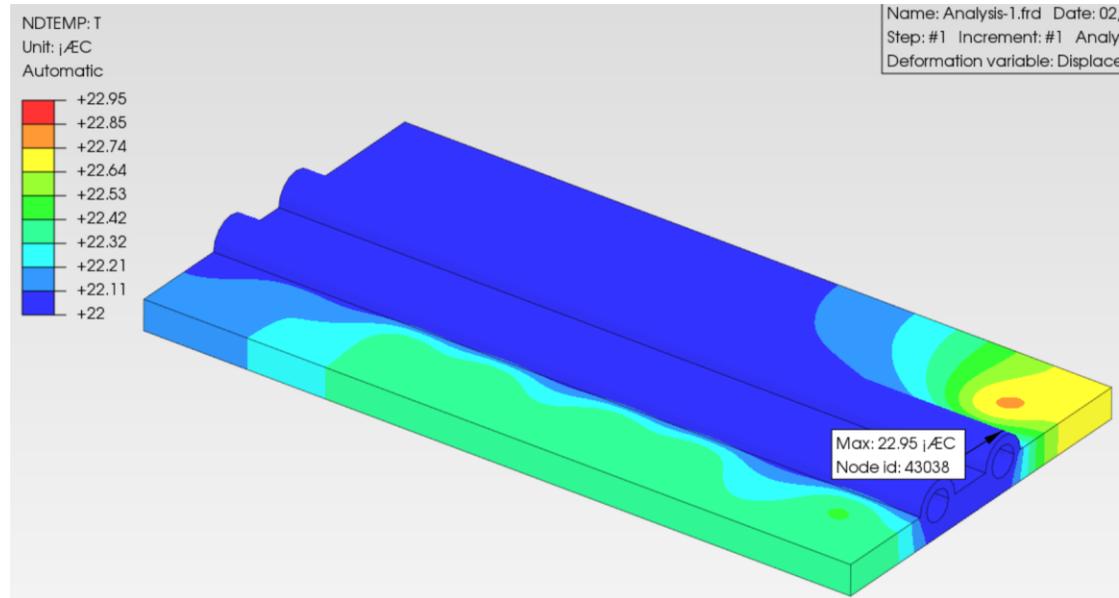
- Working with CFD (Girish, BNL) for dedicated thermal simulation for the cooling design.
- SS (304) Pipe embedded Aluminum Heatsink.
- 304 Stainless steel (~ 16.5 W/mK)
- 6063 Aluminum (200 W/mk)
- If SS conductivity has issue, copper or brass can be an option.

Components



Number	Name	Power (mW)
1	DC/DC	4400
2	SALSA1	1800
3	SALSA2	1800
4	SALSA3	1800
5	SALSA4	1800
6	LDO_S1	450
7	LDO_S2	450
8	LDO_S3	450
9	LDO_S4	450
10	LDO_lpGBT	156
11	LDO_VTRX	875
12	lpGBT	600
13	VTRX	175
	TOTAL	15,206

Initial Test (steady state)



- Steady state model (FEM: PrePoMax/CalculiX) to estimate overall heat map.
- Old heat sink model
- Old parameters (temperature, flow rate, pipe diameter, ...)
- Need to include CFD
- CFD model will be updated (Girish, BNL)

