

SBS Electron Calorimeter

Mark Jones

Many groups involved

SBS/ECal collaboration

JLab/UVa/YerPhi/SBU/JMU/NCCU

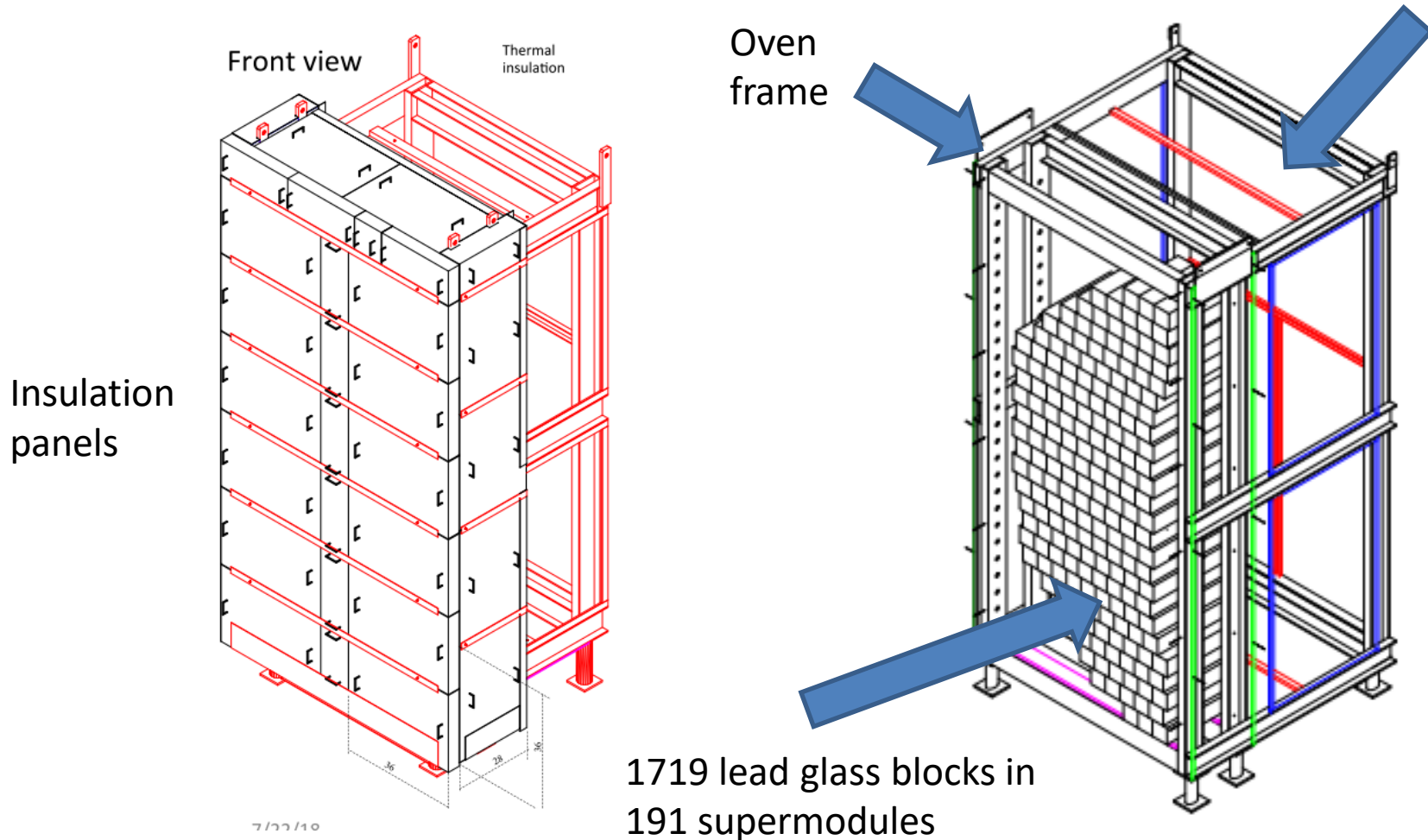
GlasgowU/UVa/NCAT/UConn/CMU/INFN

- ECAL was not funded in the SBS Project, so funding has to come from universities and Jlab Hall A operating budget.
- North Carolina Central University received a large grant for designing ECAL and building the ECAL oven.

SBS Electron Calorimeter

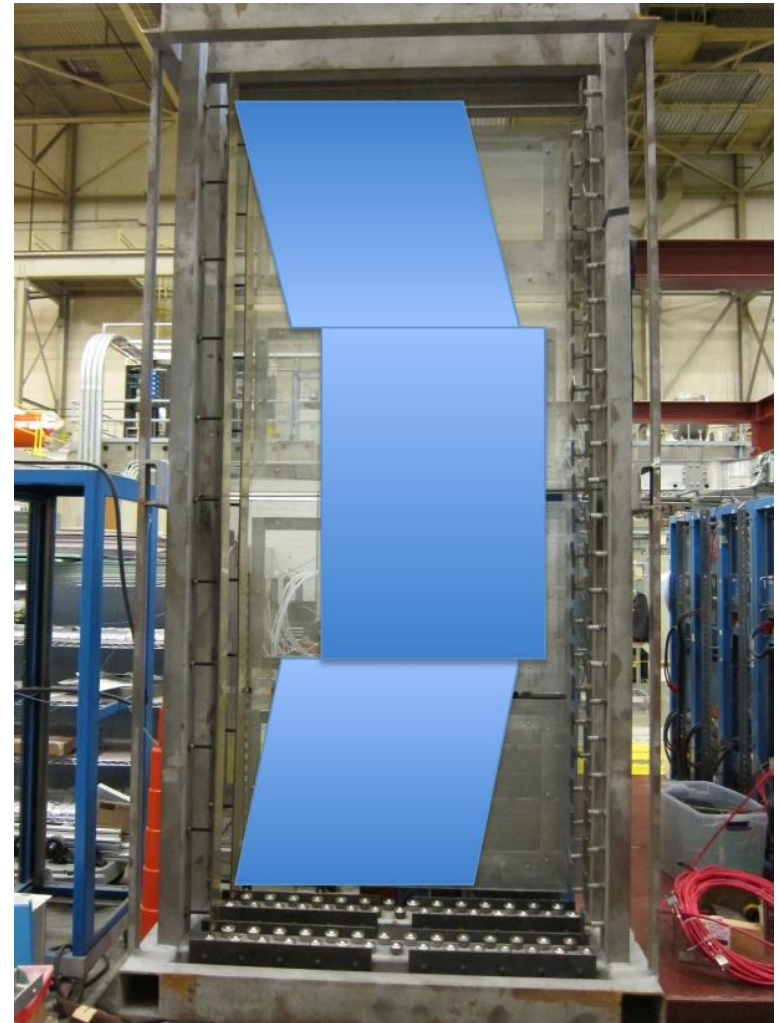
- Design by Yerevan, NCCU and JLab

PMT light box with
air distribution

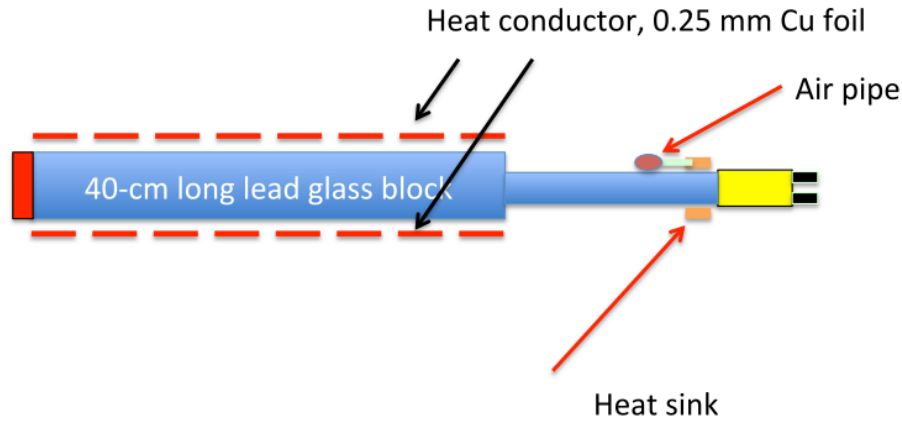


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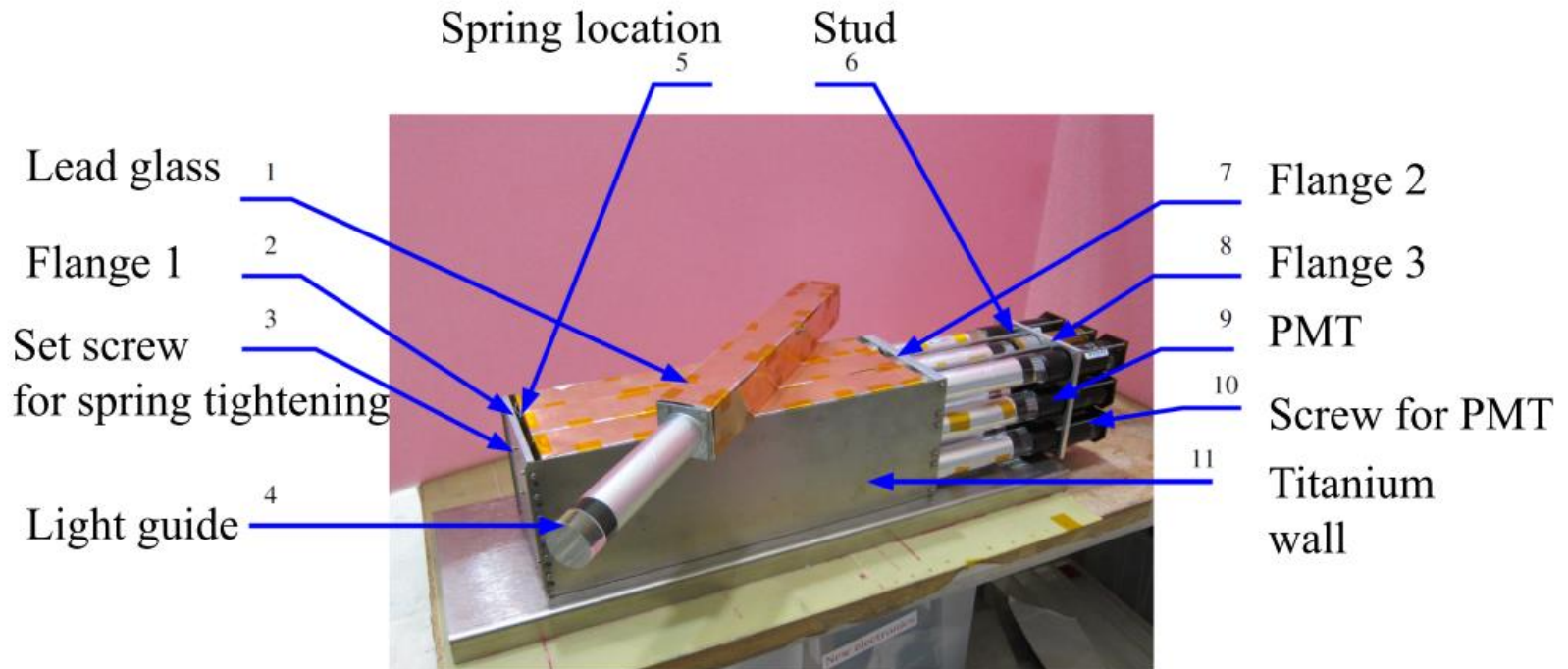
- NCCU purchased oven frame and arrived at Jlab last summer.



SBS ECal Supermodules

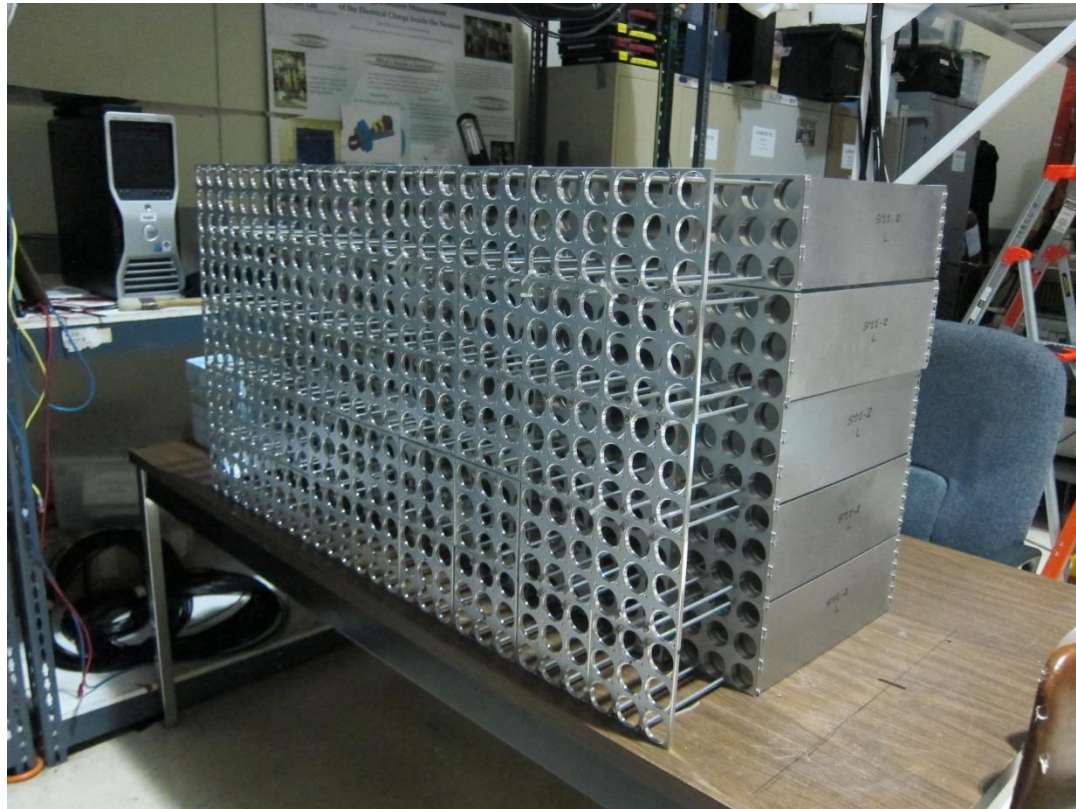


Extensive testing of design concept at Jlab and SBU



SBS ECal Supermodule status

- Bihn Ton, master student at NCCU, has assembled all the supermodule frames



PMT testing completed by JMU

- Gabriel Niculescu [reported on work](#) last collaboration meeting.
- JMU completed testing of 2400+ PMTs by summer of 2018.
- Measured relative QE, after pulsing, and gain vs HV curves for all PMT.
- Determine that ~1900 PMT are usable

PMT base design

- Need to replace about 1000 Protvino style bases.
- Gabriel Niculescu gave a [recent talk](#) at the weekly meeting.
- Reusing the previous base socket. Need a collar to hold socket.
- Attach new base design.
- Base design has been sent to Jlab (Fernando Barbosa) for review.

Conclusion

- Bihn Ton presently working on cutting copper and aluminum foil needed to wrap the lead glass bars.
- Need to glue 300 light guides to lead glass. Have about 1500 already glued.
- Anticipate funding from UVa for Albert Shahinyan to work at JLab in 2019.
- Need to complete design of ECAL back frame and the support for the ECAL/CDET and then procure.
- Have to revisit the electronics. 3 years ago did inventory, but need to check again.