

ARA1

Guide to discussion

History of ARA1

- ARA1a: TestBed electronics, computer failed, spares had failed as well
- ARA1b: Brought down in parallel with ARA2 & ARA3, failed with USB1.1 vs. USB2 issue
- ARA1c: Replacement for ARA1b (which tested fine in the ICL, and later at OSU), failed in the same way (works in the lab here)
- Station DAQ & Power boxes are here at PSL

What to do with a problem like ARA1?

- We believe the issue to be related to the power interface, cabling plus power supply
- We do NOT have a spare of this generation power box, nor an ARA2/ARA3 spare, nor a working ARA4+ generation power box
- We have never reproduced the problem in the lab
- Some chance of something thermal, but no evidence in that direction either
- Potential solutions: power system rework and/or PCIe readout

Next steps

- Tear the power box down
- Extensive temperature testing
- But confidence is not going to be super-high
- September shipment south
- Aongus does the install at ARA1 in December
- We can run the Mike Richman surface pulsing at ARA1 as well during the Austral Summer