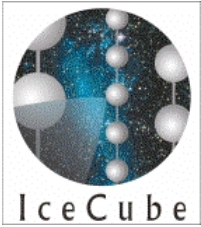


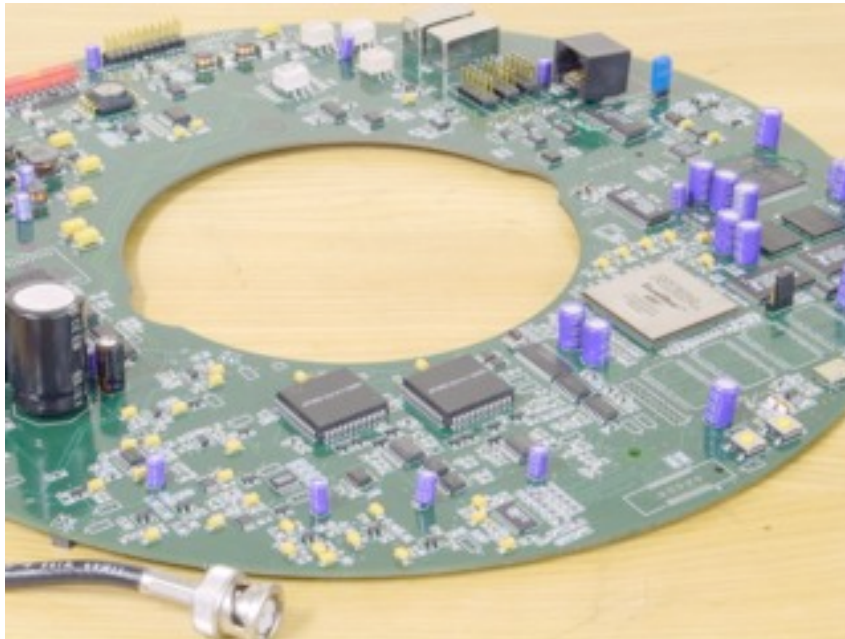
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# STF Test Development

John Kelley  
UW-Madison  
October 20, 2003

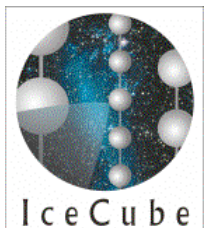


# STF Uses

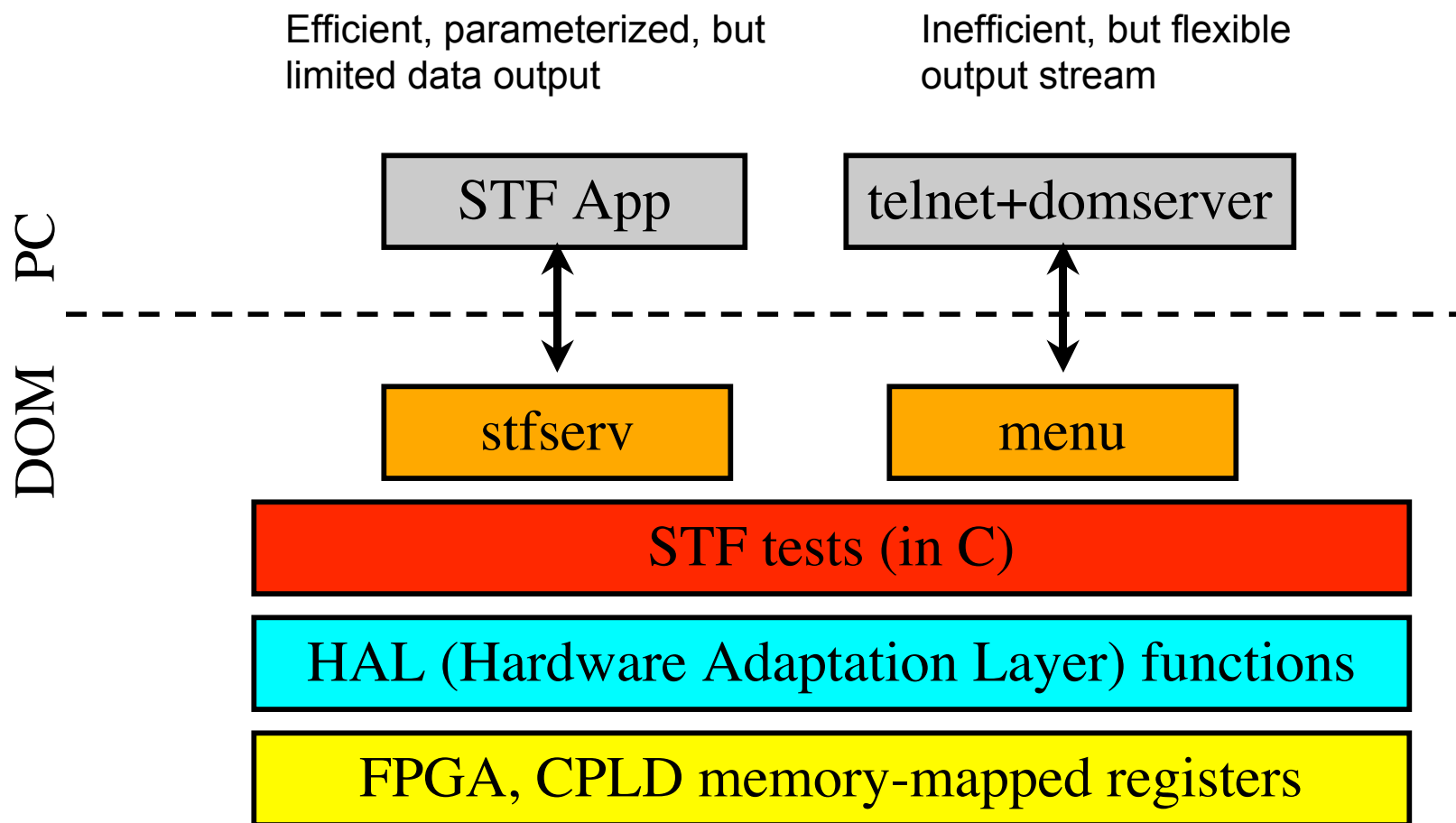


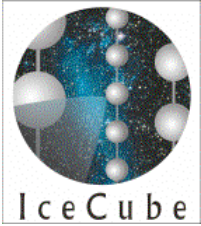
- Production testing of basic DOM functionality
- Hardware, firmware, and software verification
- Laboratory investigations

*“If it’s not tested, it’s broken...”*



# STF Structure

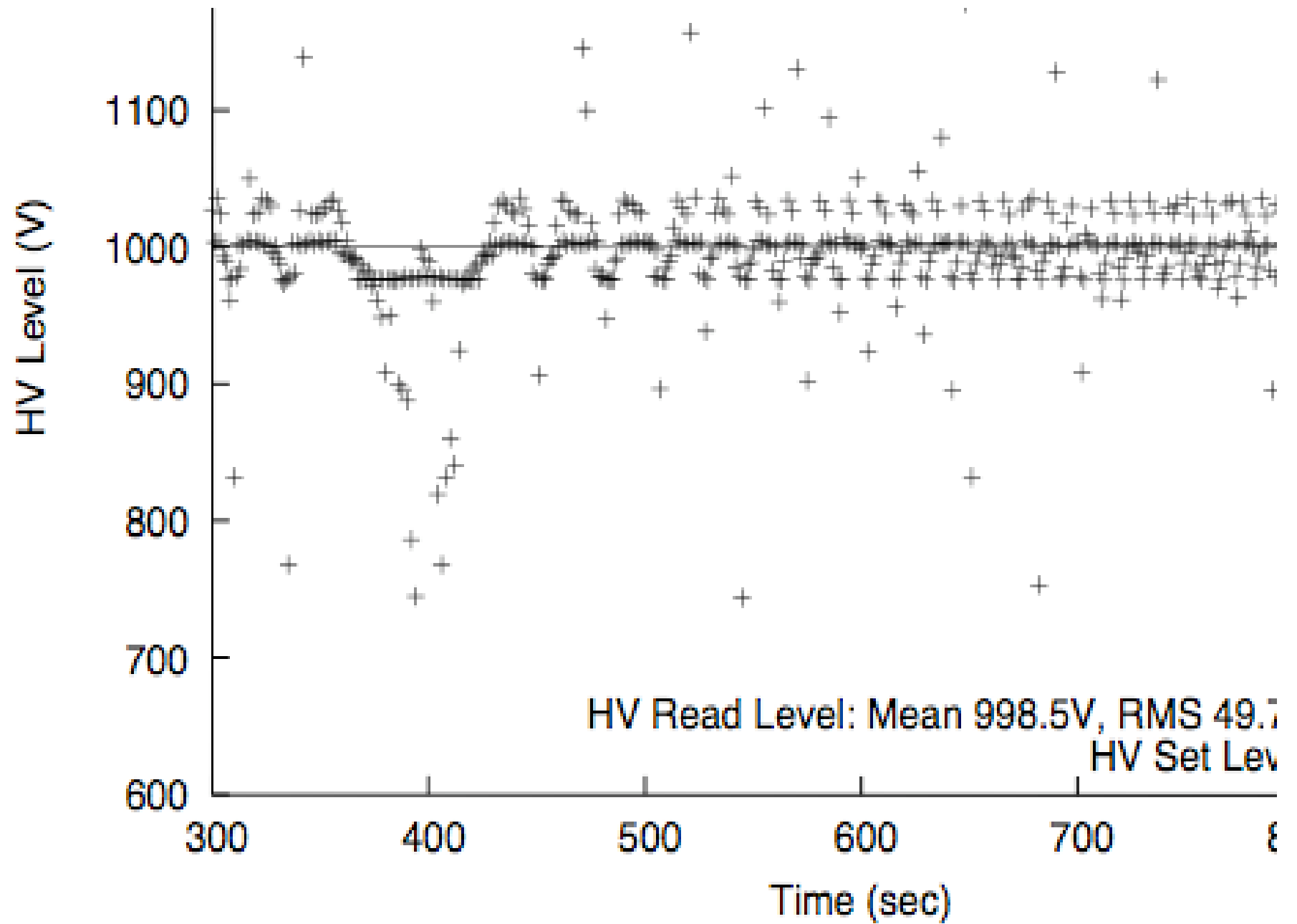


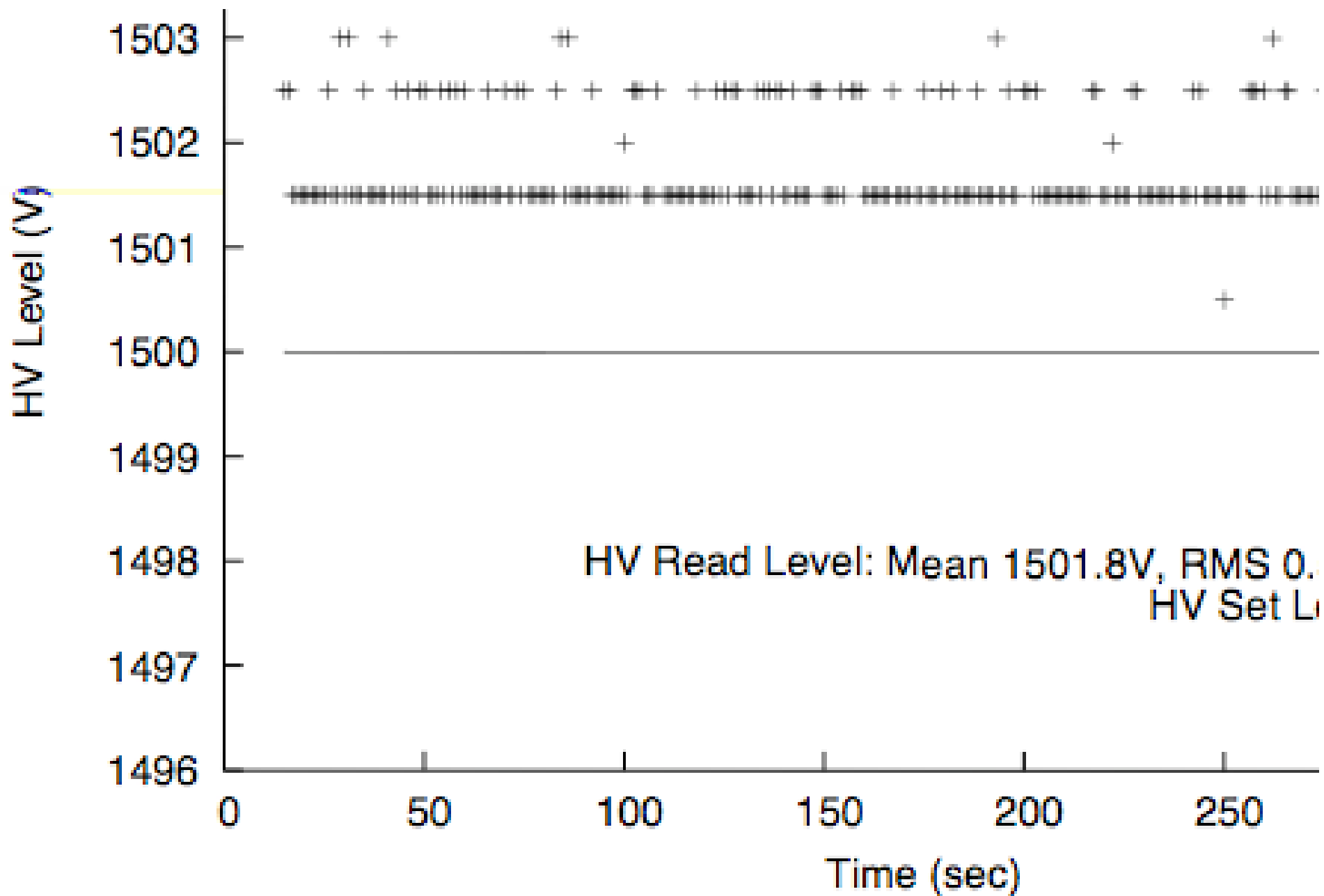


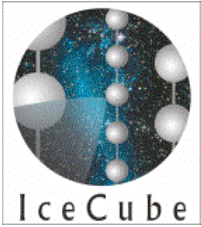
# HV Stability

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- Set high voltage base DAC, monitor ADC readout over time (currently ~5 min)
- Pass conditions (preliminary)
  - $\text{RMS} < 1\text{V}$
  - Error of mean  $< 5\text{V}$
  - Error of max/min  $< 5\text{V}$

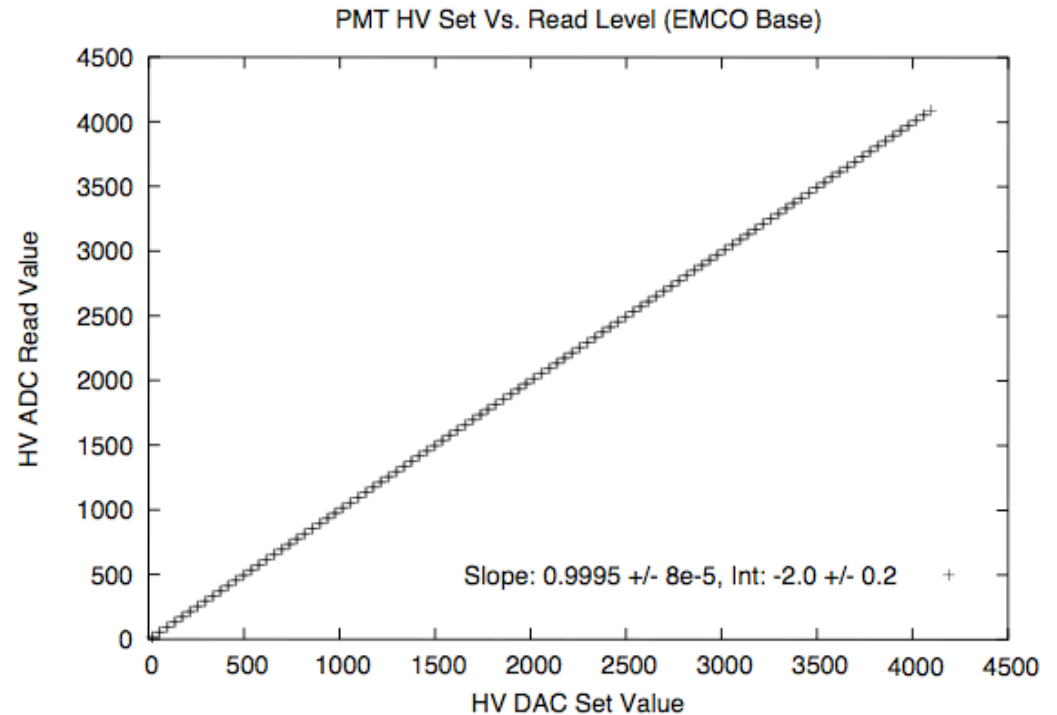


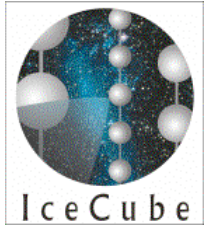




# HV Ramp

- Ramp high voltage up and down full range, monitor ADC
- Pass conditions (preliminary)
  - Max error < 5V



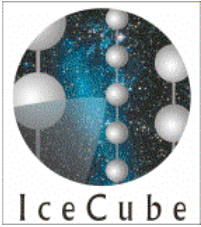


# Other Tests

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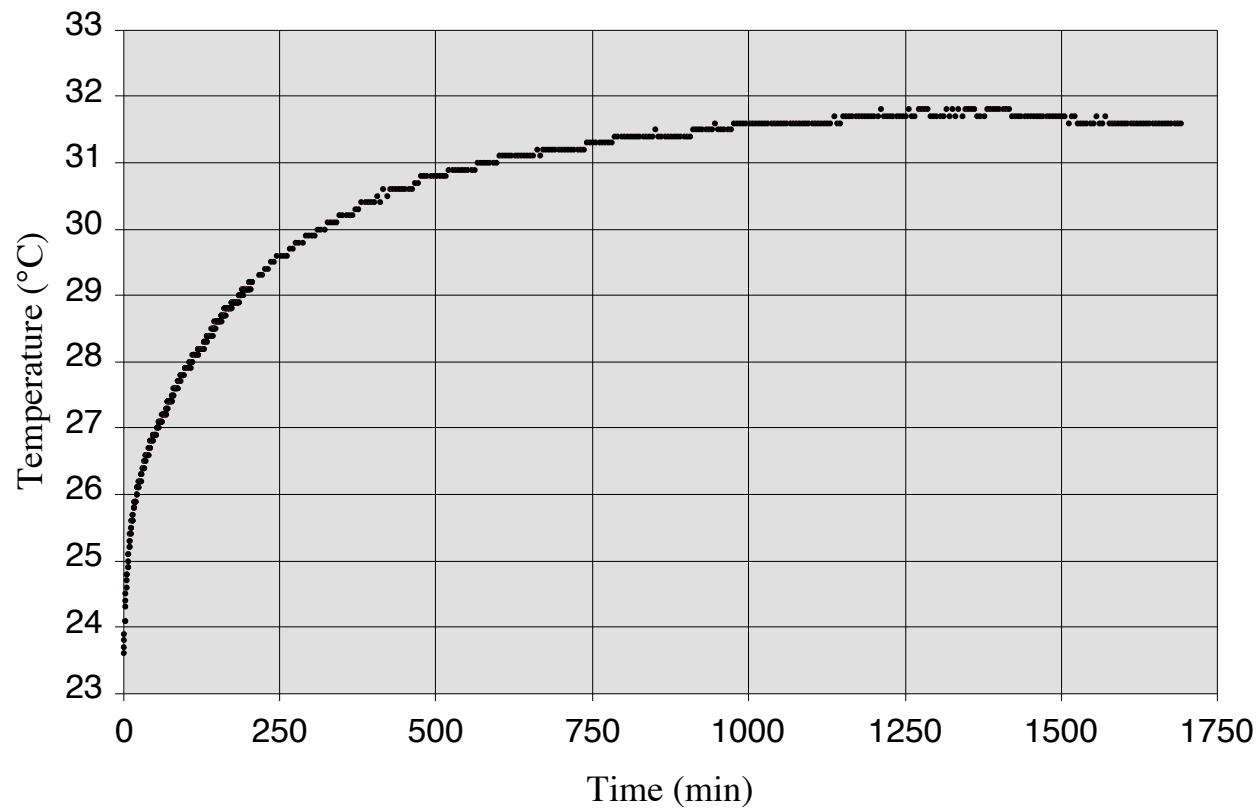
- ATWD, FADC suite developed at LBNL
- PMT P/V ratio (in progress)
- Coordinating with A. Goldschmidt on further development



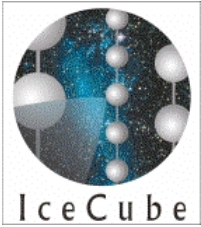


# Self-heating Test

DOM Heating (Board Sensor)



- Order-of-magnitude self-heating test for Bartol
- STF used for continuous temperature readout
- Around 9°C differential



# Pressure Test

- Needed live pressure readout for IceTop DOM sealing
- Separately verified readout with vacuum chamber gauge
- Used STF to monitor pressure during sealing

