Muon g-2 AEM Update

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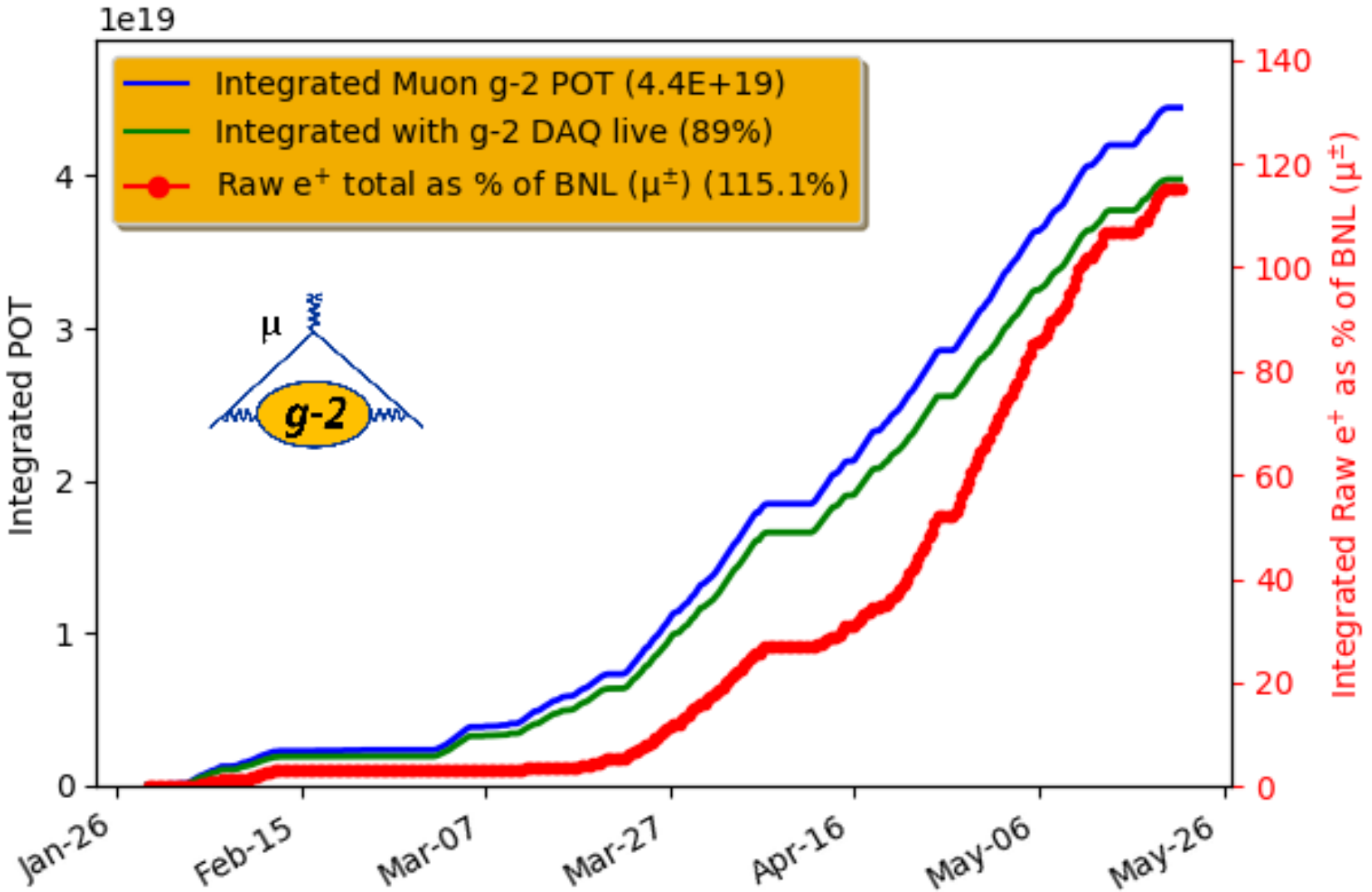
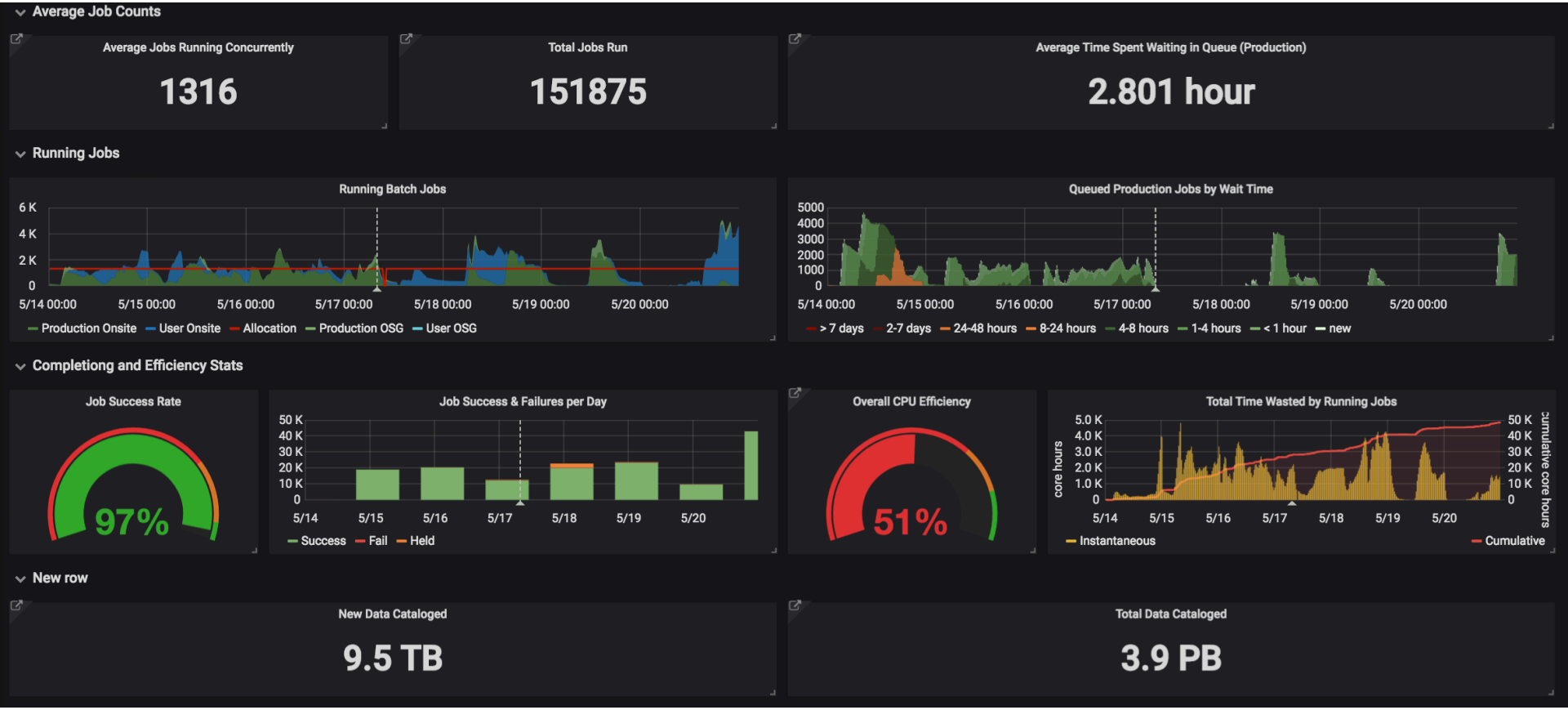
It was an alright week for Muon g-2

- Kicker 2 repairs Mo to Wed
- Stable running Thu and most of Fri
- Kicker 1 thyratron power supply problem on Fri
- More kicker 2 problems on Sat
- Switched to field program for the rest of the weekend
- Kicker 2 repairs ongoing

Added 12 % of BNL in last week



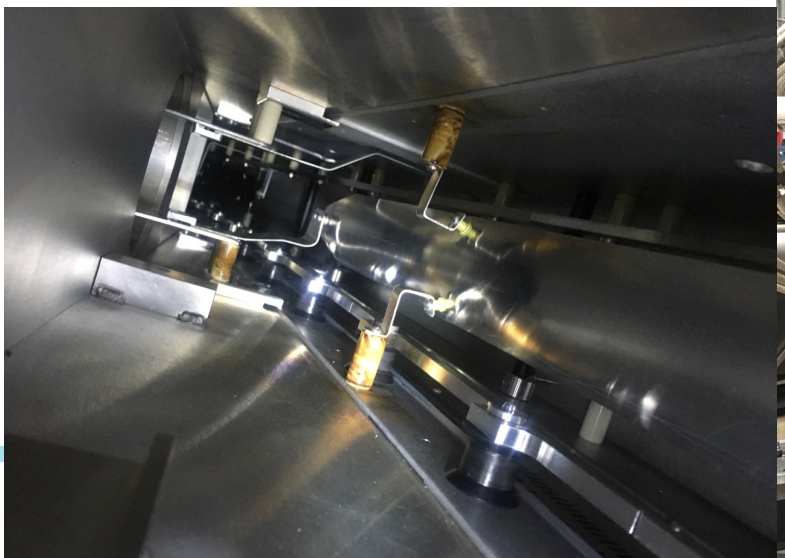
Computing

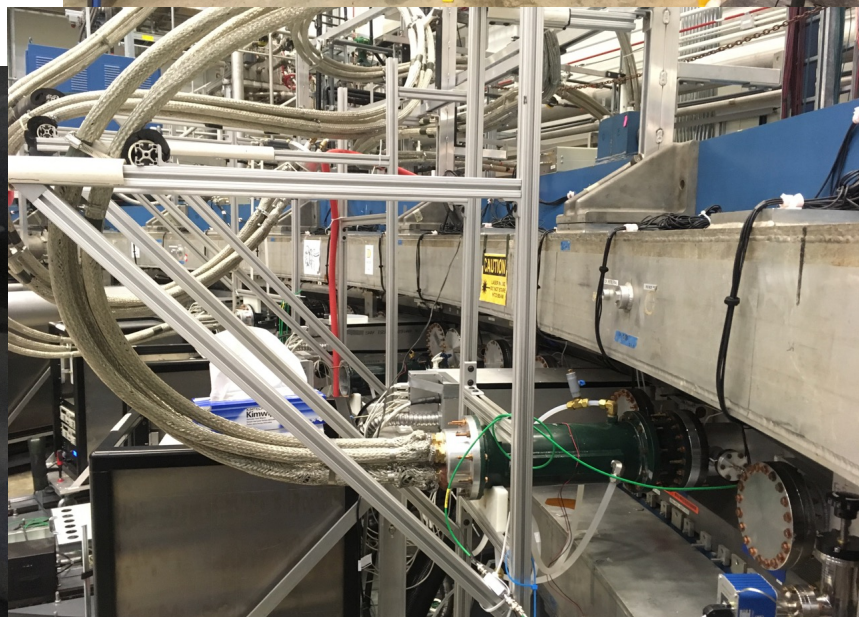


- Efficiency improved with a new software release
- Reconstruction catching up raw data rate

How a kick is made?

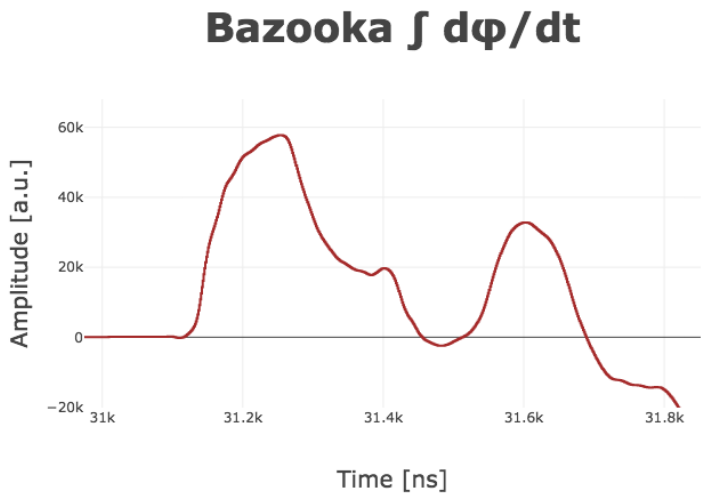
- a *charging power supply* charges up
- *capacitor back* to low voltage (700 V) that is discharged
- through a *transformer* into
- a *Blumlein*, which is a HV capacitor (55 kV), that is discharged through
- four *50 Ohms resistors*, which convert high voltage into high current into
- in-vacuum *plates*, where the current generates magnetic field that rotates momentum vector of muons





Kicker 2, two weeks ago – Resistor Issues

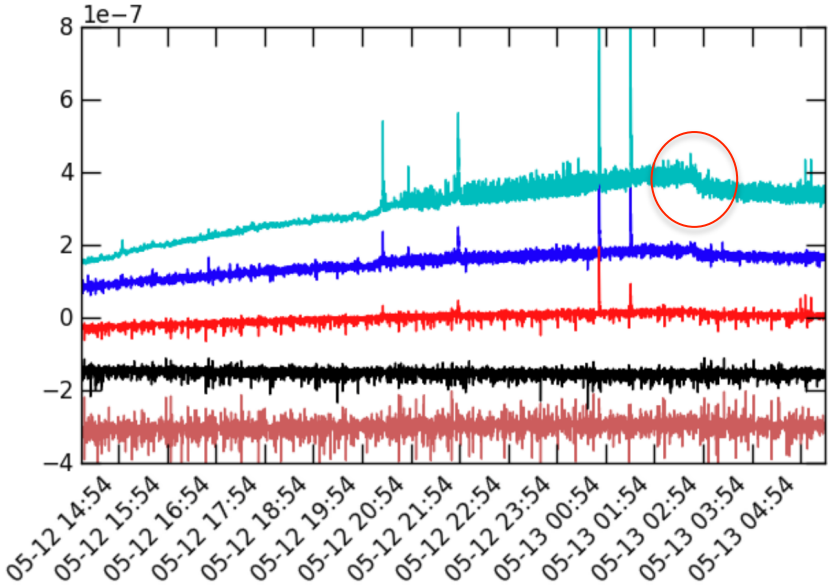
- Kickers were observed to have ugly pulse shapes
  - Corresponding CTAG drop

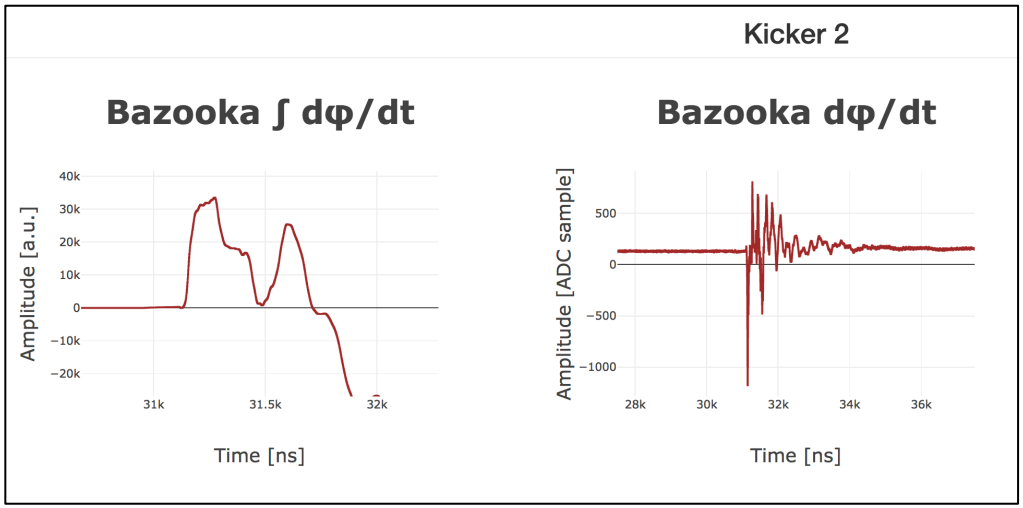


- Friday, during AD downtime, opened up and found resistor in awful shape
- Replaced Resistors, cleaned fluorinert chillers, recovered old pulse shape friday

Kicker 2 a week ago

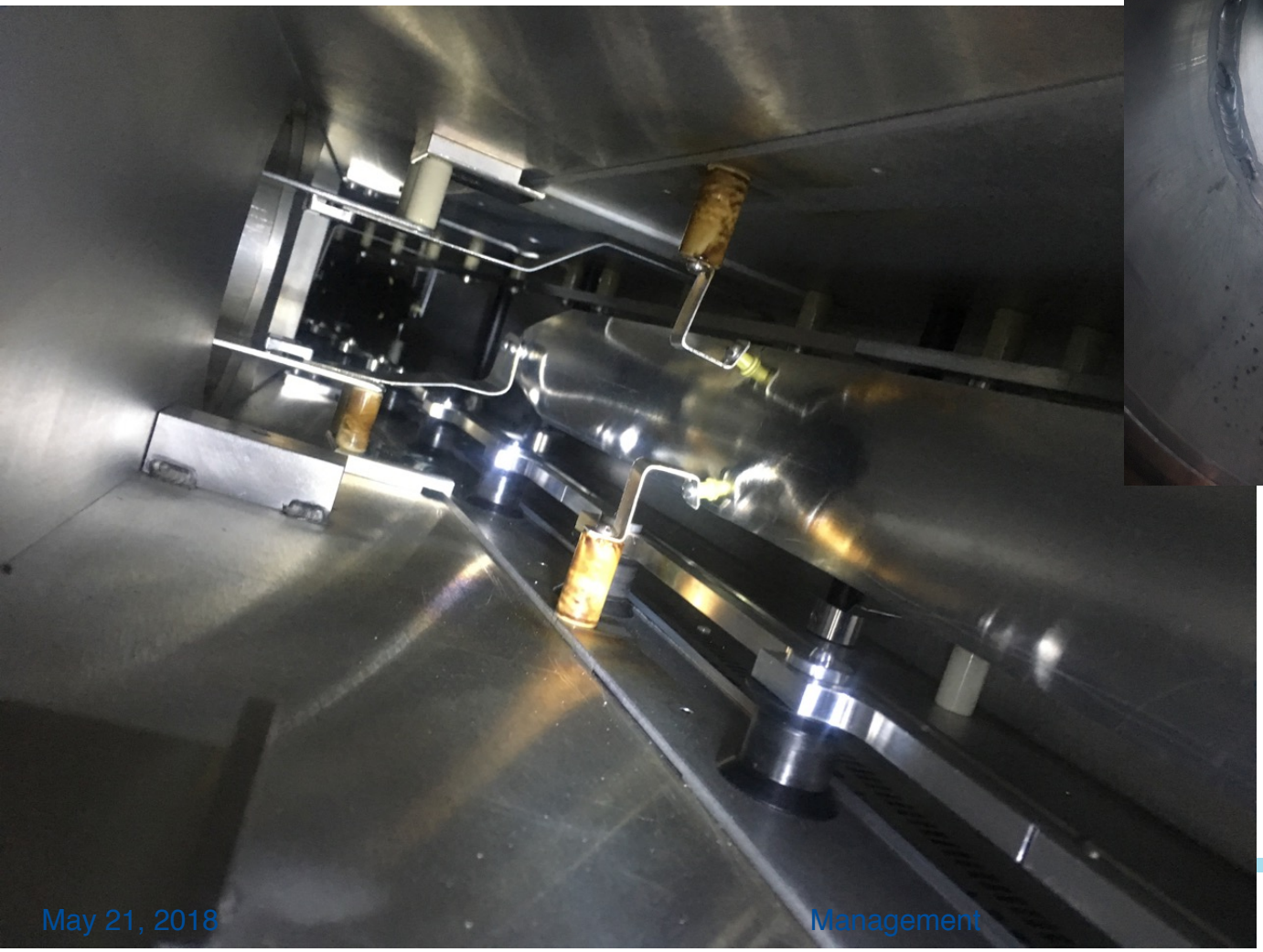
- Looks even worse than before
- Decided to call it → switch to field.





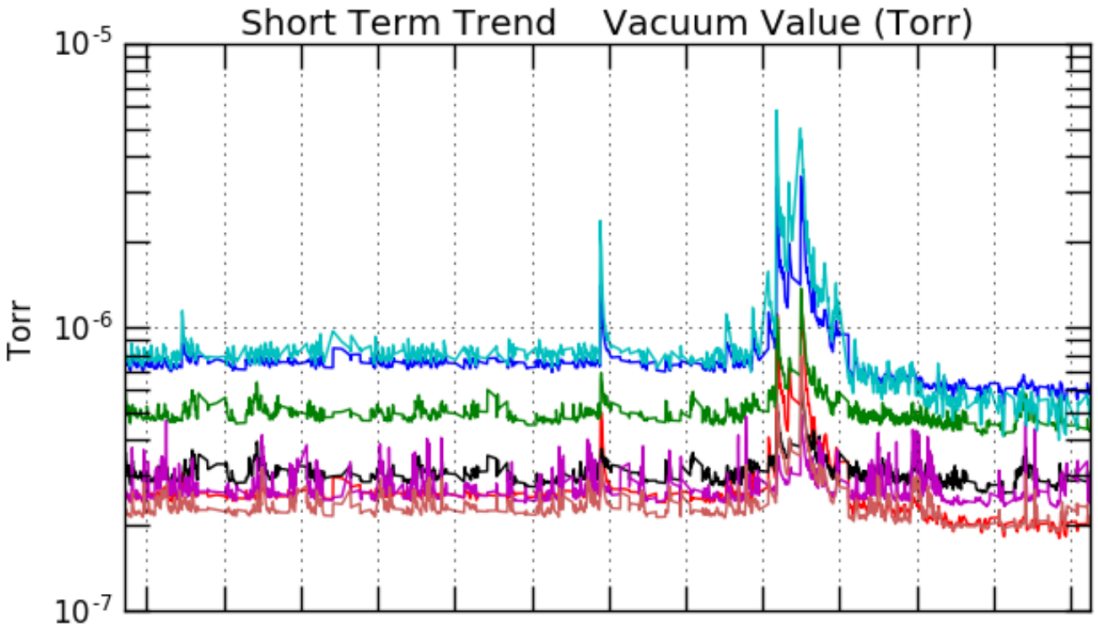
Kicker 2 a week ago

- Burned 2 resistors
- Didn’t find a problem in vacuum



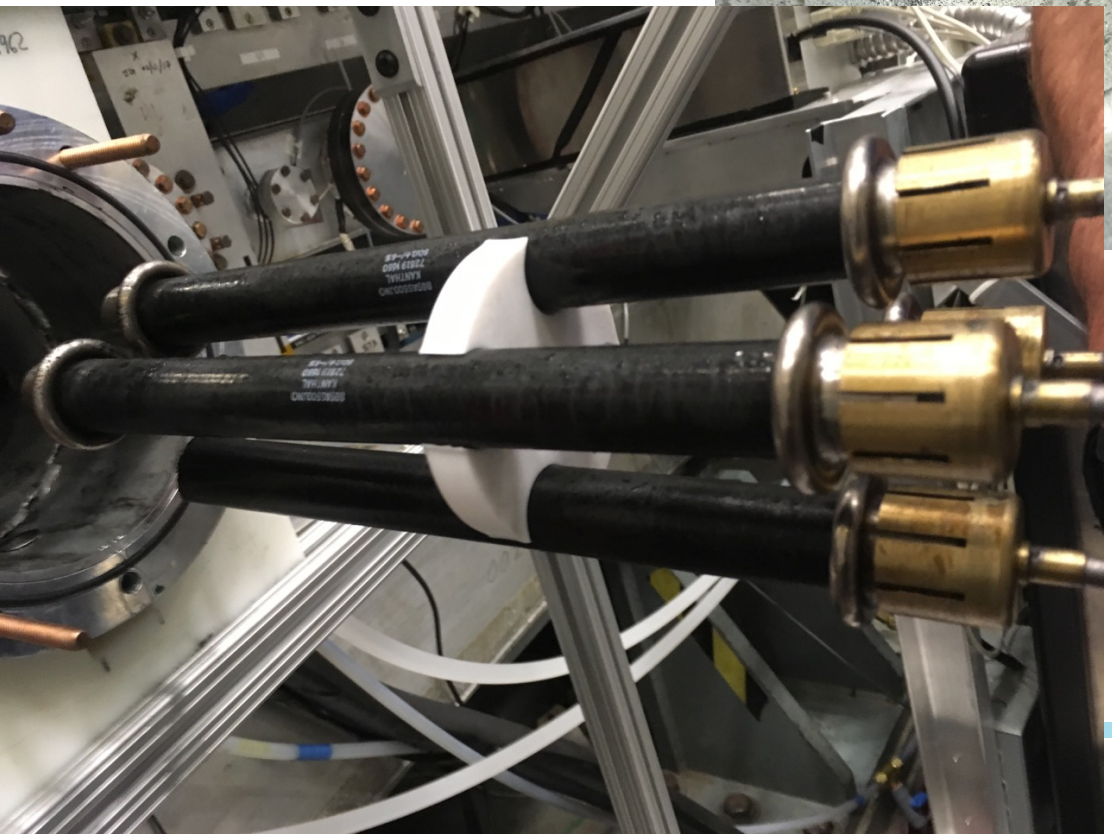
Kicker 2 on Saturday

- Looks even worse than before
- Decided to call it again → switch to field. Examined today.`



Kicker 2 today

- Burned 2 resistors
- Problem in vacuum



Summary

- More kicker problems
- Last time we replaced what was broken
- This time we are replacing everything
- Two more days to recover, and store beam again