

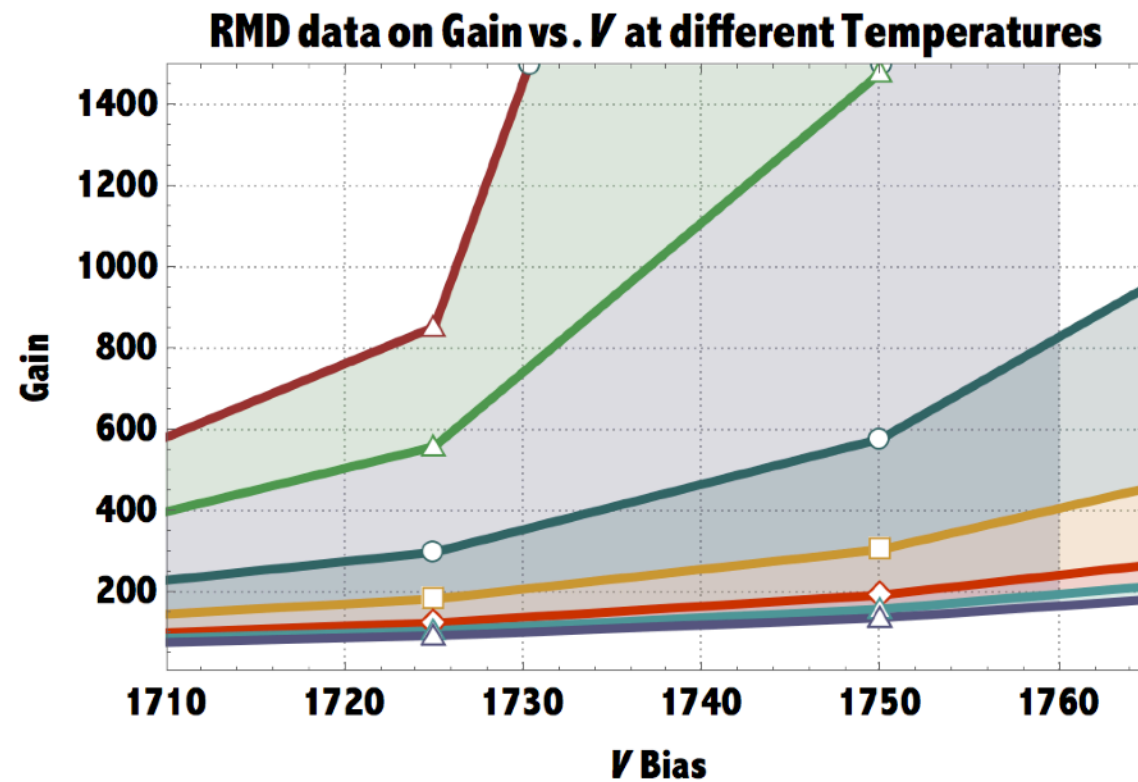
More on Scaling

Sebastian White, HFS mtg. May 3, 2018

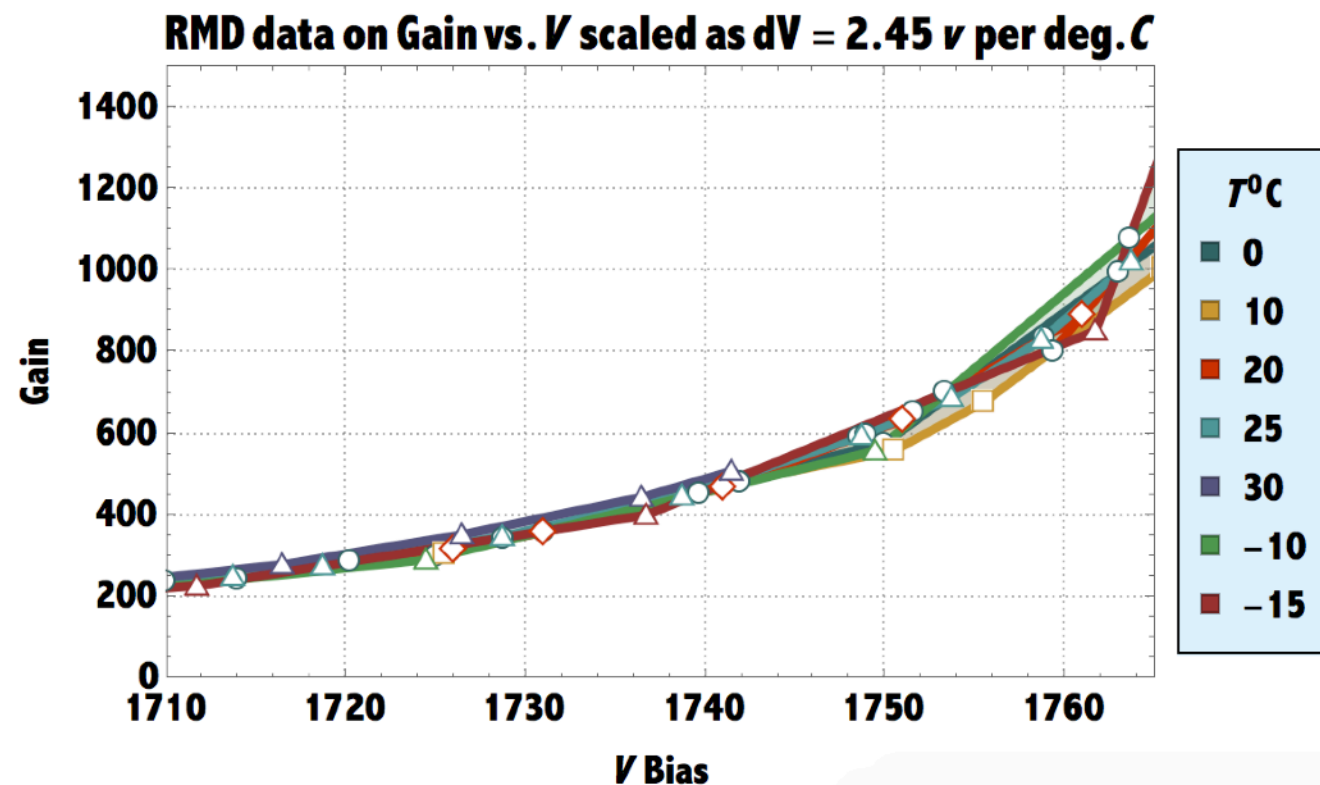
Outline

- 1) a new way to display T, V scaling of RMD Gain data
- 2) in order to put my laser data on same plot need G_{APD}
- 3) attempt to get this from Fe55 data

RMD data on linear scale

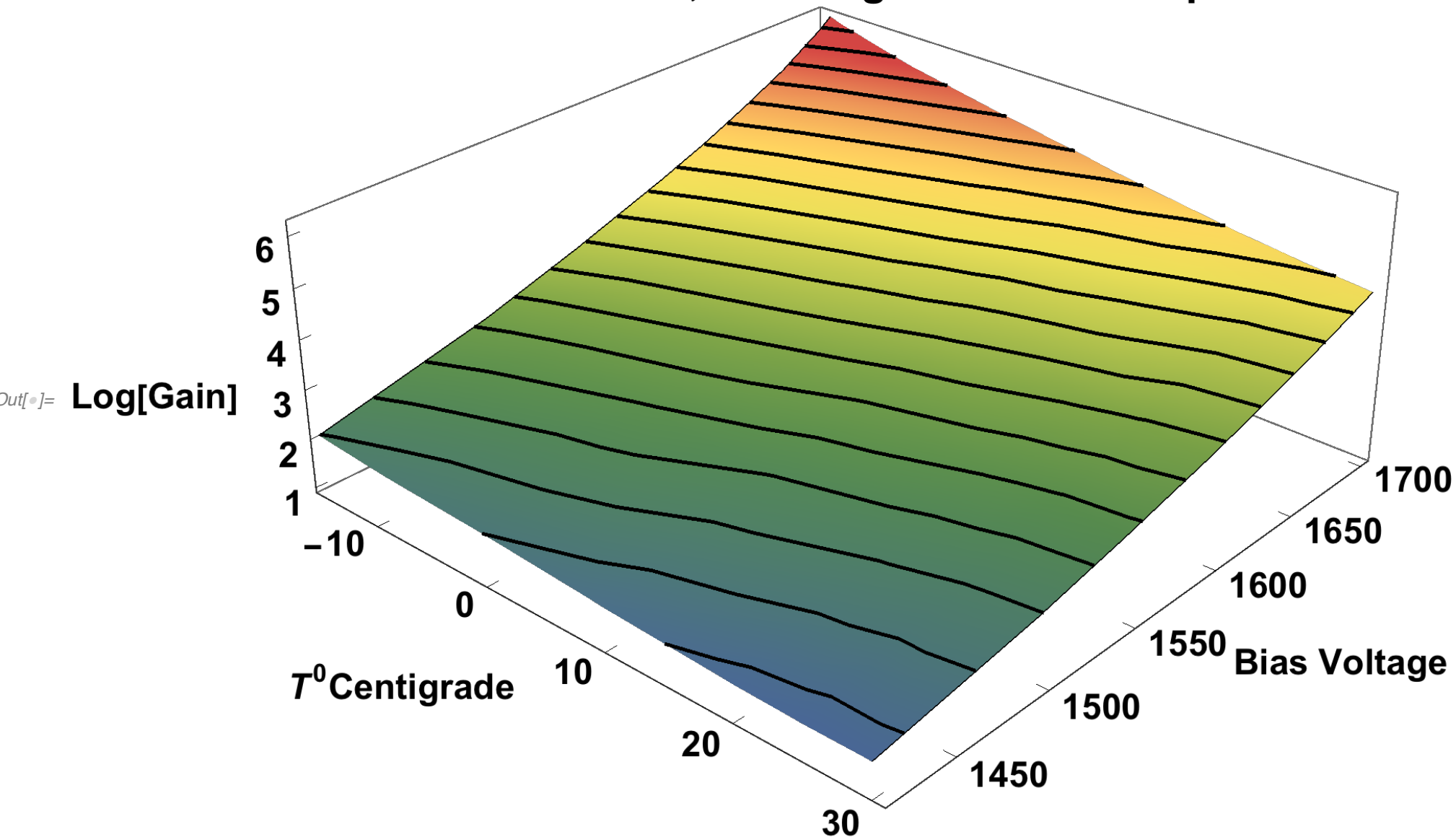


even on linear-> very good scaling
breaks down at $\sim G=1000$



another way to see it

RMD Gain Data, showing contours of equal G



Scaling<-> parallel contours

Absolute Gain scale for Laser data from SSD lab

- $N_{e-h}^{Fe55}=1640$ $Q^{Fe55}=0.26\text{femtoCoulomb}$
- $G_{\text{Amp}}=G_{\text{Mitch}}*G_{\text{MiniCircuits}}=1\text{mV/fC}*13\text{dB}$
- \Rightarrow @1776V measure 48mV for Fe^{55}
- $48\text{ mV}=13\text{dB}(=*4.46)*G_{\text{Mitch}}*G_{\text{APD}}*0.26\text{ fC}$
- this implies $G_{\text{APD}}=41$ @ 1776v !!! (cp ~ 300)

Mitch comments? \rightarrow we now think difference is ballistic deficit (ie how we interpret for our signal model)