

Quick CDMSlite Check of 10keV Line as T_{FEB} and Current Change

Jorge D. Morales
William Page

04/07/2015 09:15:55

Abstract

As the temperature in the FEB crate changes we have seen that the current in the cdmslite detector changes as well. As temperature gets higher the current is lower, and dramatic peaks of high temperature have shown drastic drops in the detector's current. In addition, we relate the response of the 10keV line due to the Luke energy gain, as seen in series from February 10 2015 up to March 30 2015, also plots including data up to April 5 2015 were added.

I. FEB Temperature

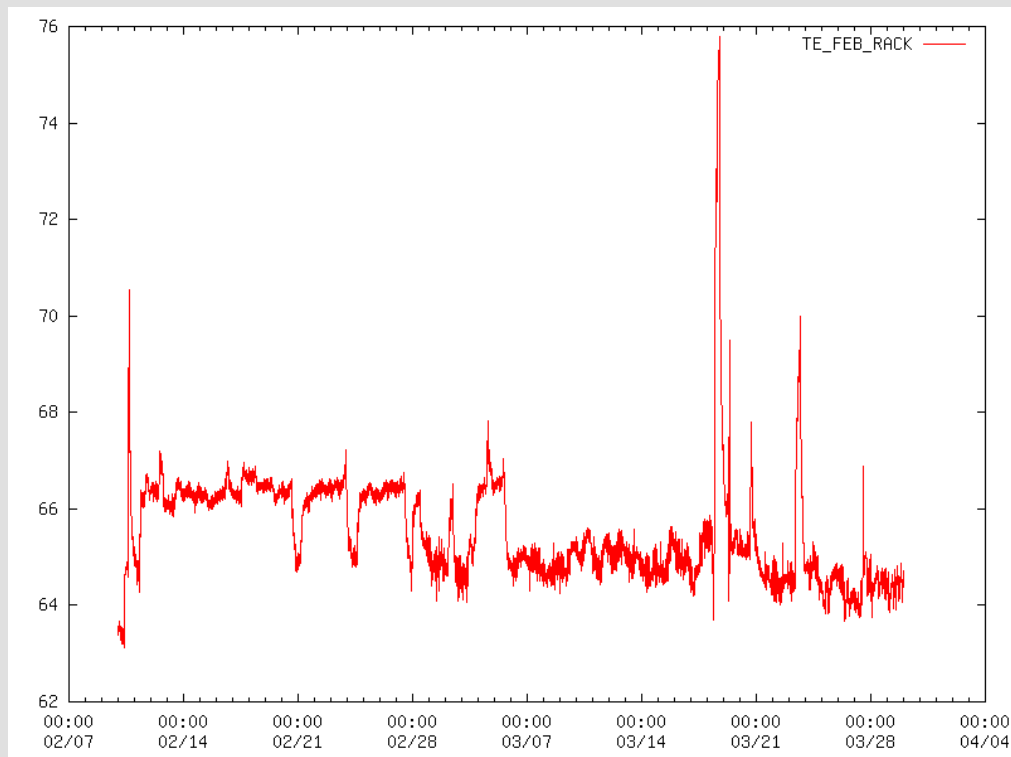


Figure 1.a FEB Temperature

II. Current and Voltage

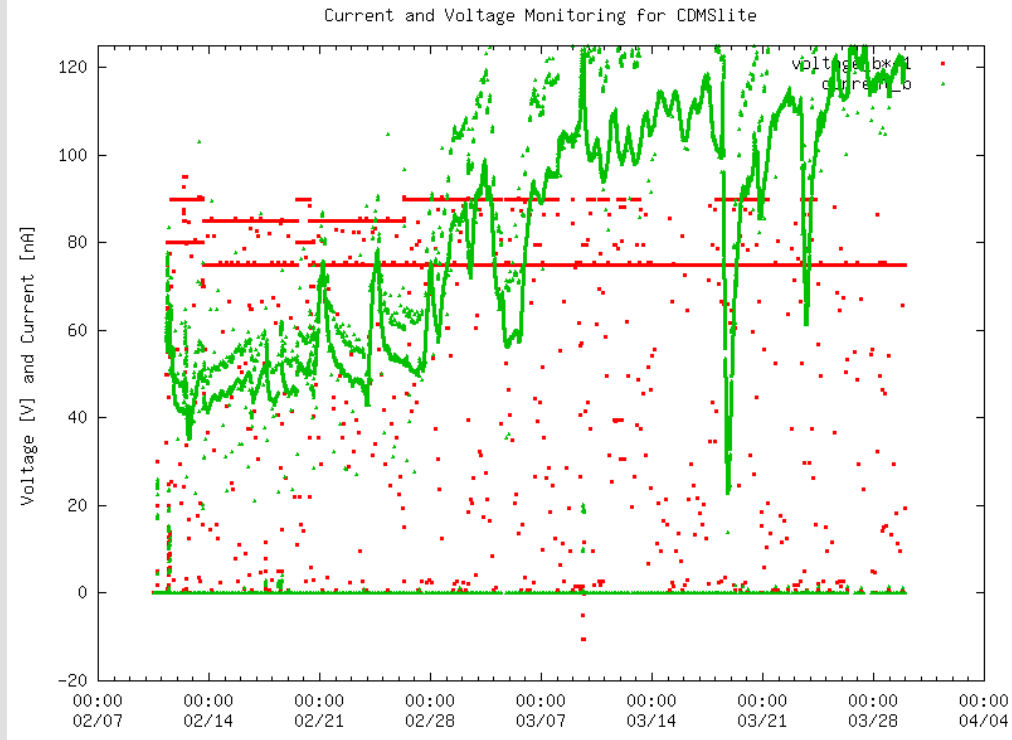


Figure 2.a Current and Voltage

III. Phonon Energy psumINT

Zoom 0

Zoom 1

Zoom 2

Zoom 3

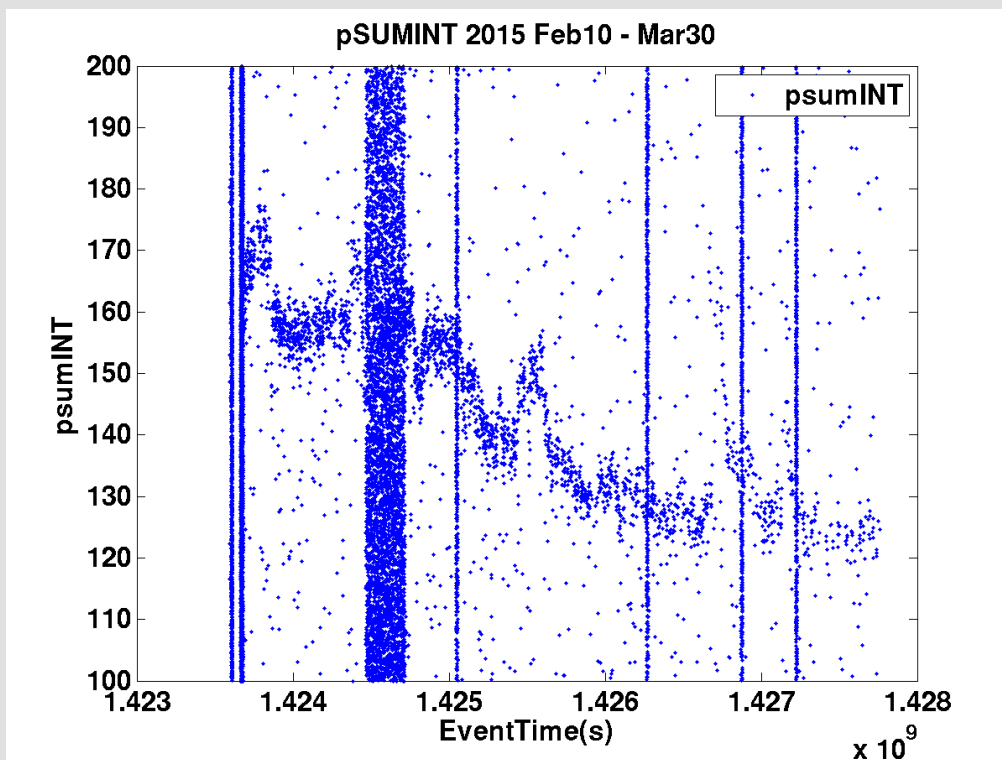


Figure 3.a Energy

IV. Overlaid Images

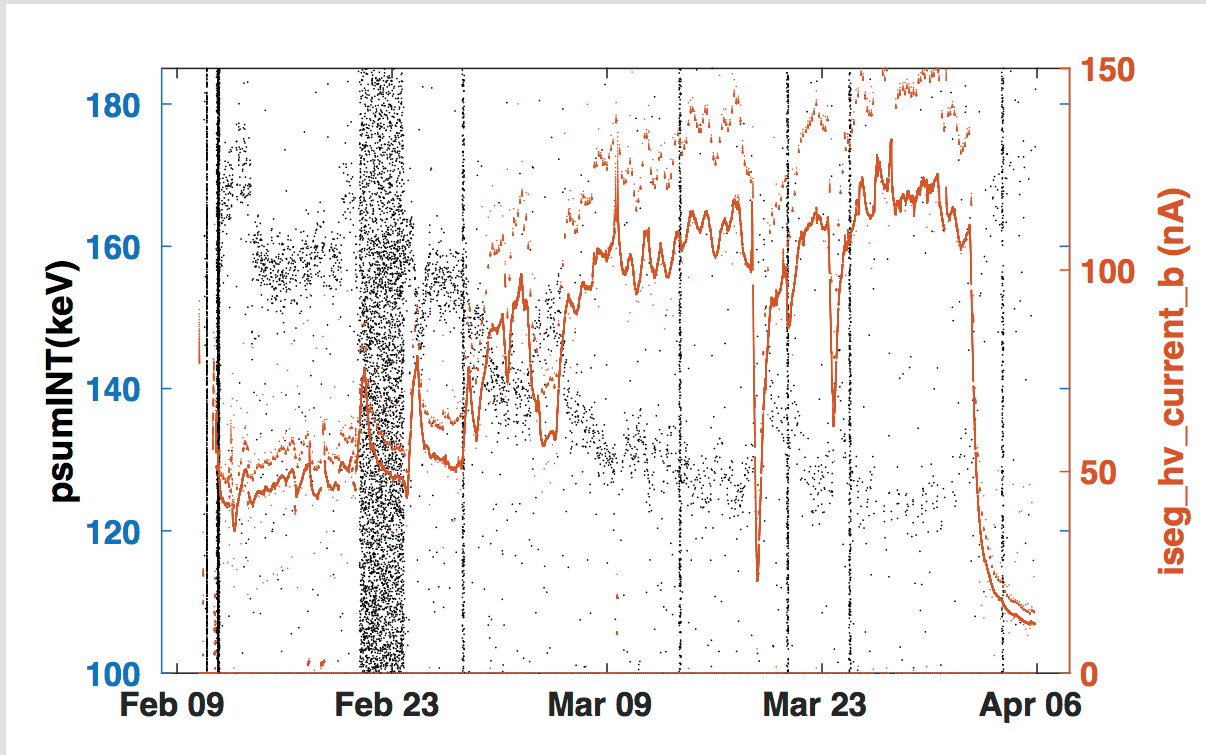


Figure 4.a FEB Temperature and Current up to April 5

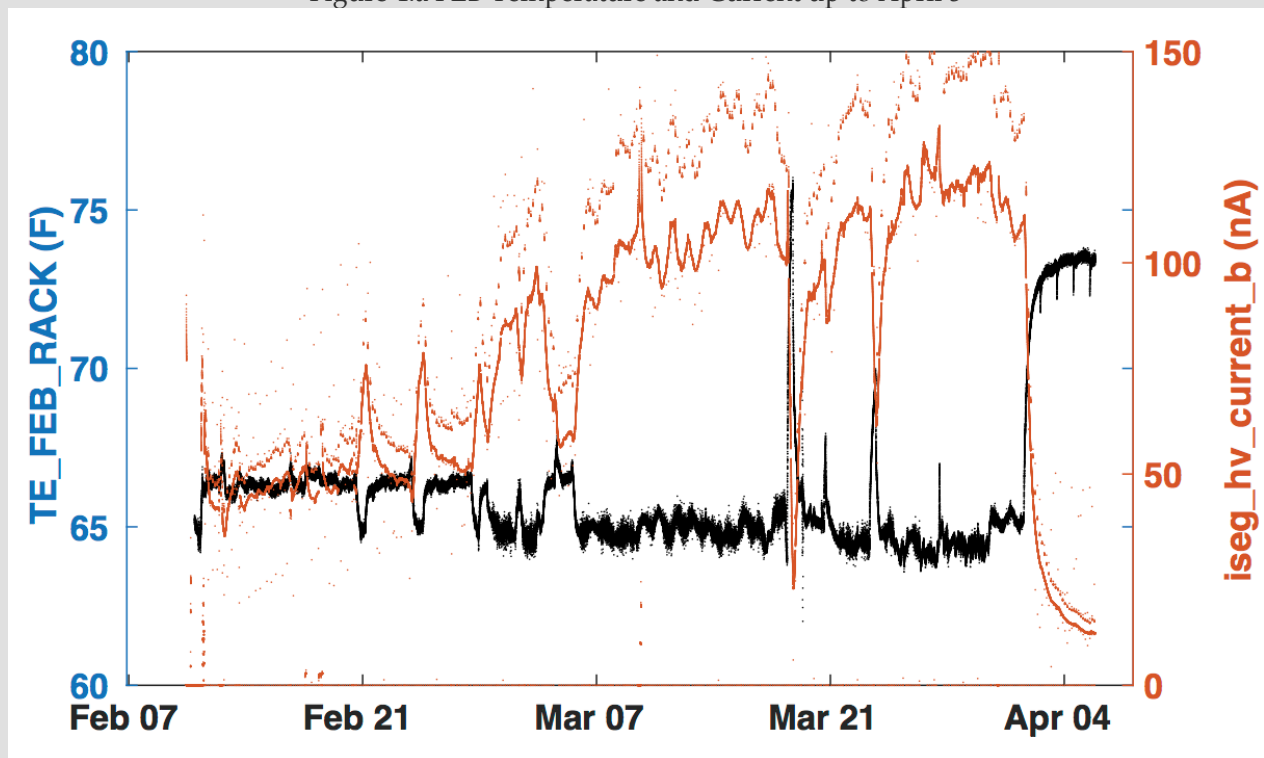


Figure 4.b Energy and Current up to April 5

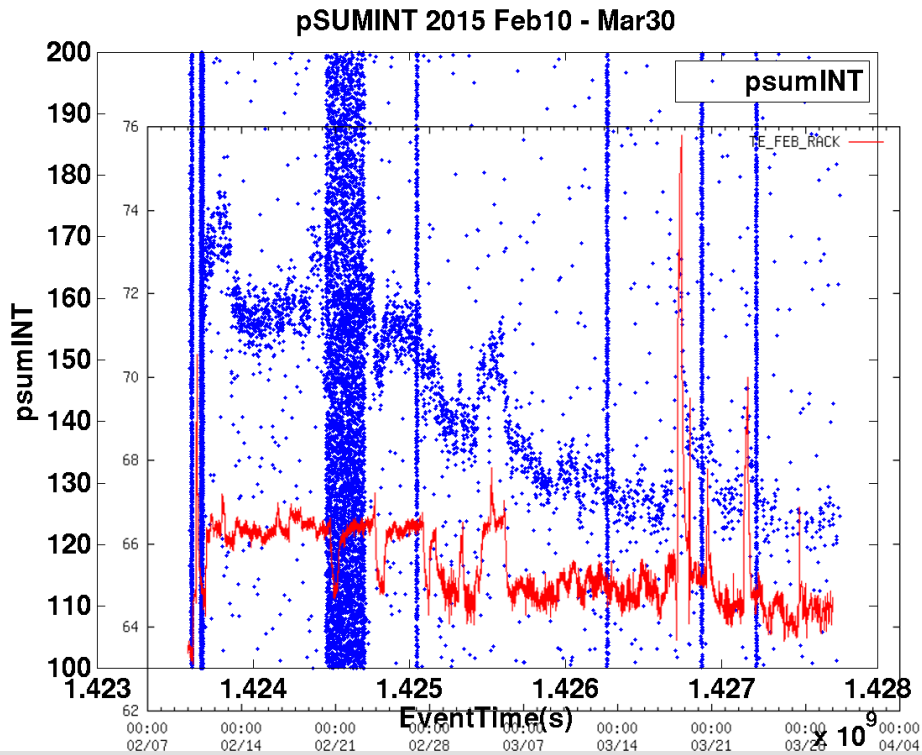


Figure 4.c FEB Temperature and Energy

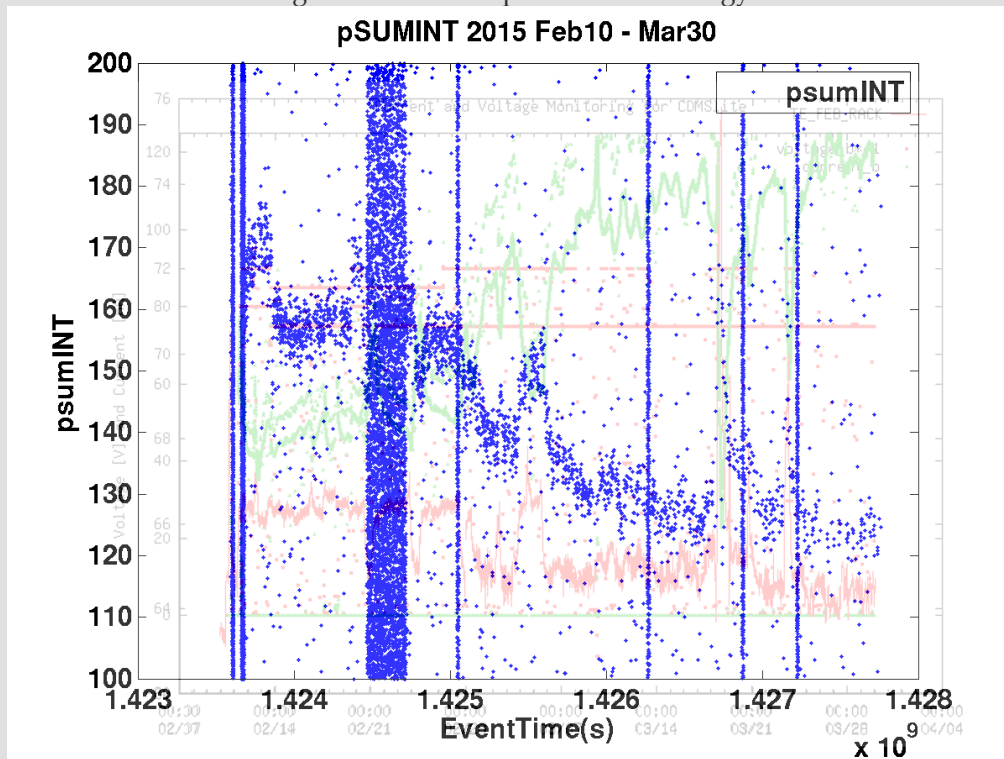


Figure 4.d FEB Temperature, Current, and Energy

IV. Conclusions

- The 10keV line is drastically modified by the change in the current which also depends on the temperature of the FEB crate
- As the temperature increases the 10keV line is pushed to higher values