

PEBs Meeting, Cern, 28.Jan. 2009



SiPM readout test

Guido Haefeli

V2 USB board

- Add SPI interface connector and its galvanic separation (4 pin interface at low speed $< 1\text{MHz}$) to support slow control interface to SPIROC FE card.
- Change routing of the analog signals to assure good analog signal quality.
- Remove calibration feature since not needed!
- 15 boards in production, first board received from China, tests need to be done.
- Li (he arrived in Lausanne beginning of January) will take care of the hard and software development

V2 USB board

- For running with the SPIROC a configuration file has been generated
- A C-code is used to configure and operate the readout
- Clean up of the current Labview and implement a basic monitoring of SPIROC but also VA32 readout.

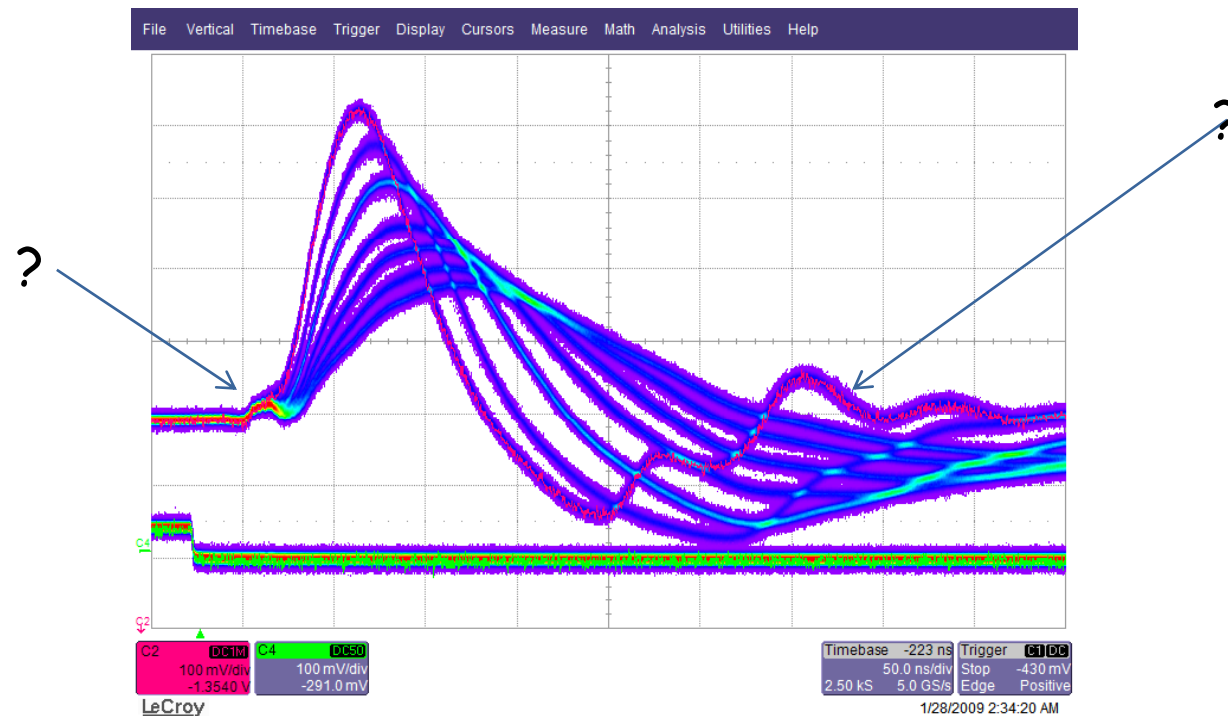
SPIROC testing

- Many problems due to wrong configuration of either external digital signals, or internal configuration register settings,...
- “half” damaged chip during the first weeks of testing.

Still many things not under control

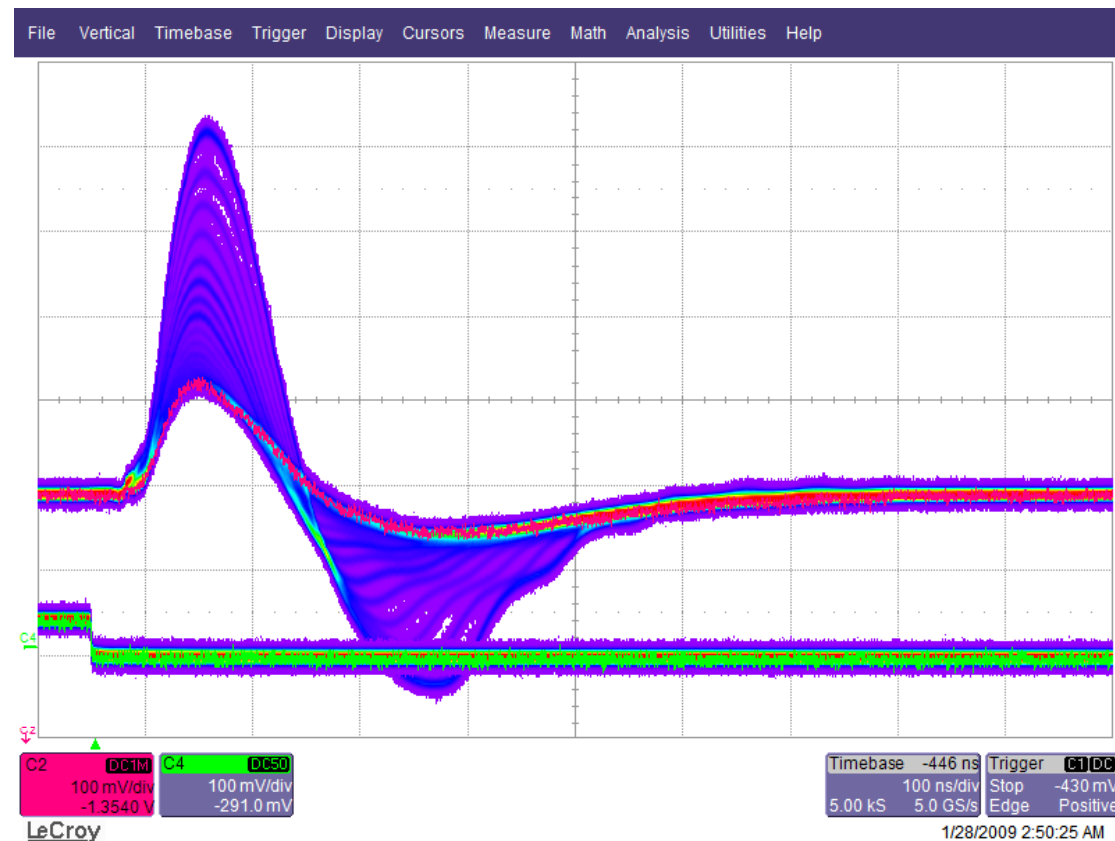
- Some instability, oscillation for certain settings of shaping time

lowest high gain setting, 1.5pF



Still many things not under control

- Some instability, oscillation for certain settings of the gain, shaping time 50ns (gain scan for high gain setting, 0.1pF to 1,5pF)



And also:

- Problem with one chip, doesn't function as expected anymore, however this chip configures and the read back configuration data is always correct.
- The second chip does works better for the analog part but it sometimes (1 in 10) its read back data is corrupt, power cycling needed to get back in successful configuration.
- Attached SiPM signal observed, pulsed LED light source used but can't see photon peeks??? (used single channel SiPM that I measured two weeks ago.)

