Status of ITS3 test setup and next steps

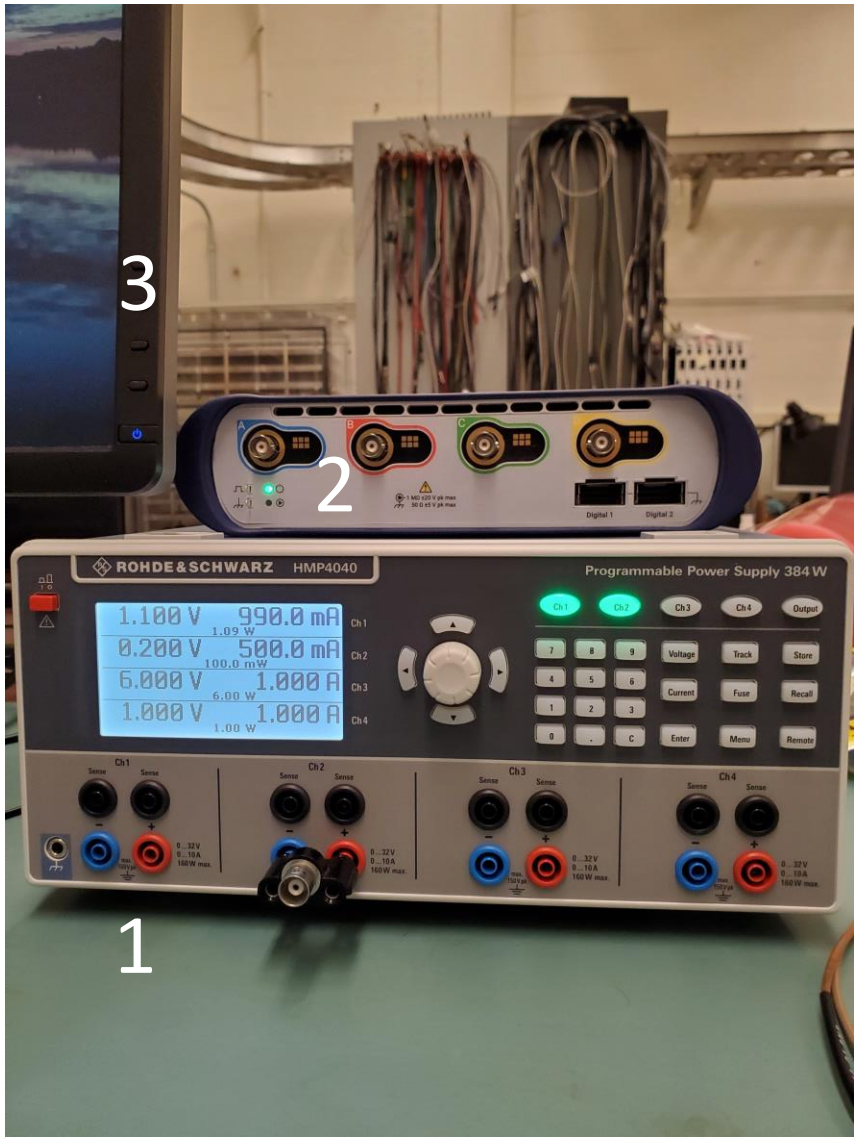
Barak Schmookler

Current status

Hardware

1. MLR1 DAQ board
2. Proximity card
3. Filter board
4. DPTS chip / carrier card

Current status



Infrastructure

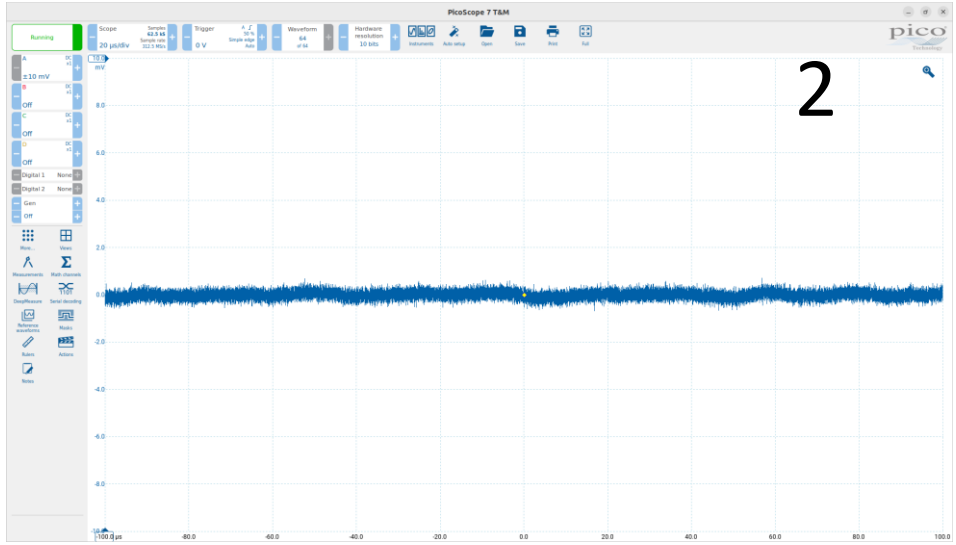
1. Power Supply
2. PC oscilloscope
3. Computer (Ubuntu installed)

Current status

```
lbl268a@lbl268a-K30AD-M31AD-M51AD:~$ mlr1-daq-program --help
usage: mlr1-daq-program [-h] [-l] [--fx3 firmware-file] [--serial SERIAL]
                        [--fpga firmware-file] [--no-fx3] [--no-fpga] [--all]

options:
  -h, --help            show this help message and exit
  -l, --list            Only list devices
  --fx3 firmware-file   FX3 firmware image file (default: fx3.img)
  --serial SERIAL       FX3 serial number to use
  --fpga firmware-file  FPGA firmware image file (default: fpga.bit)
  --no-fx3              Do not try programming the FX3
  --no-fpga             Do not try programming the FPGA
  --all                 Program as many devices as possible
lbl268a@lbl268a-K30AD-M31AD-M51AD:~$ mlr1-daq-program --list
lbl268a@lbl268a-K30AD-M31AD-M51AD:~$
```

1



2

Software

1. ITS3 DAQ software
2. PicoScope software

Current status

Connectors

What we have:

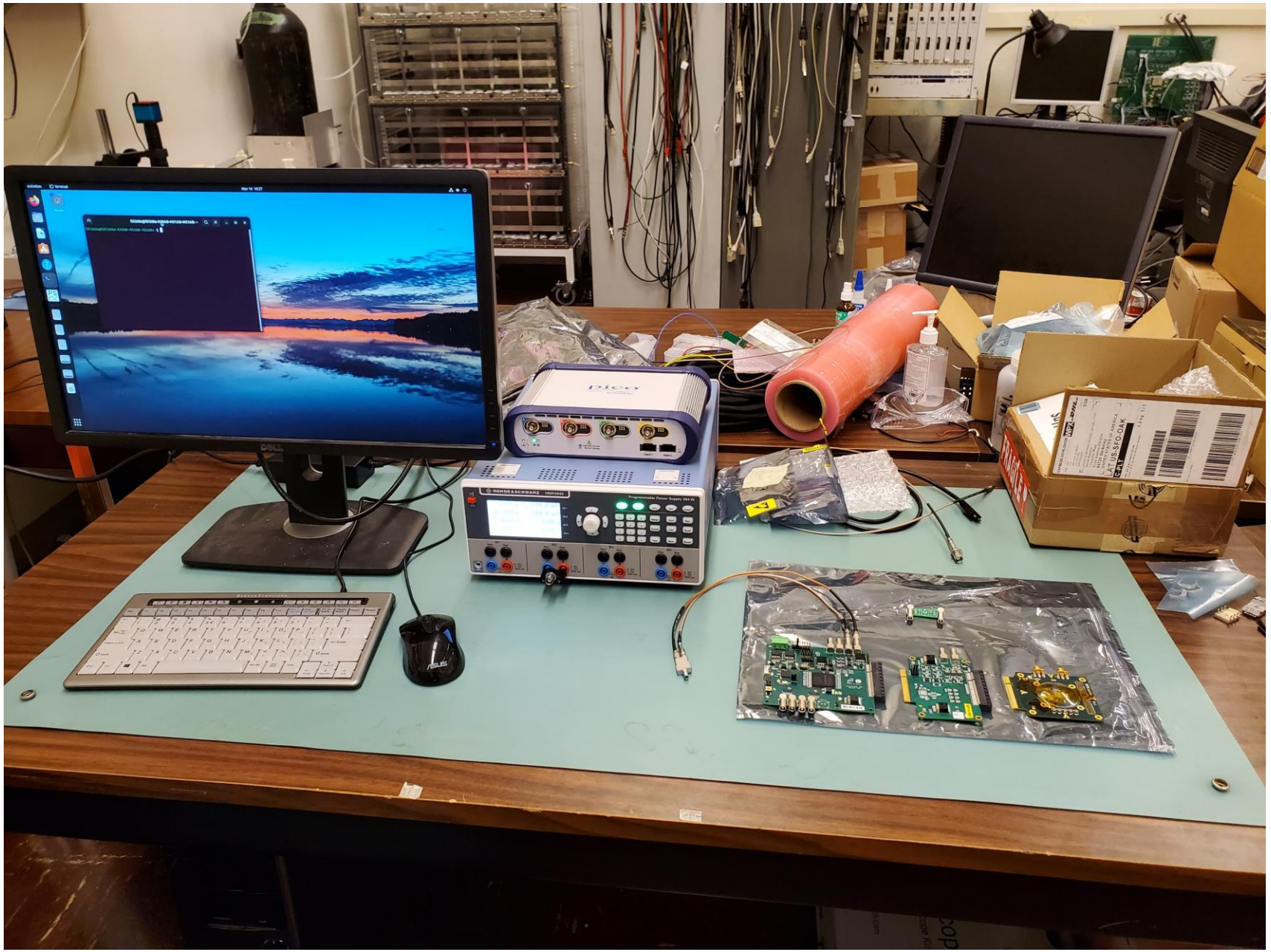
1. Cable to connect DAQ board to computer
2. Cable to connect DAQ board to scope trigger
3. Power supply to DAQ board through filter board.
4. Cables to connect DPTS board to scope inputs.

What we need:

1. Jumpers to short certain pins on DAQ and proximity boards.
2. Connection bridge on DAQ board to program the FPGA via USB.
3. Connector to attach power supply directly to DAQ board.

Next steps

- The needed parts have been ordered and should arrive in the next few days.
- Then, we will connect and power everything according to the provided documentation.
- We will see if the DAQ software can recognize the MLR1 board, and then perform the threshold and fake hit rate scan.
- Hopefully all the above items can be completed in approximately a week. Then we can try to tackle one of the items on the DPTS task list.


pico
ROHDE&SCHWARZ
FRAGILE

Test beam at the 88”

After discussion with Miguel and Oleg, our plans for the SiPMs are as follows:

- The project has ordered some 14th generation 6x6 mm Hamamatsu SiPMs. They would like about 40 of these to be irradiated at the 88’’, if possible, and then tested by the UCR group. Those SiPMs will be available for irradiation in about 2-3 months. Additional SiPMs for the HCal insert would also be irradiated and tested at the same time.
- We would want the 55 MeV proton beam at 10^8 /cm^2/s flux for this. Required beam time would 4-5 hrs.

For the DPTS irradiation, what beam species, flux, and beam time would we want? Are they consistent with the SiPM running needs?