Status of DIAMANT

	2016 Q1	2016 Q4
detectors	ready	ready
reaction chamber	in progress	in progress
differential stages, HDMI output, test pulser	in progress	ready
HDMI cables	funded	in progress
NUMEXO2 modules	6*	6
mezzanines	24*	24
DIAMANT specific firmware	in progress	in progress
licences	ordered	owned
software modifications	plans	in progress
people working on DIAMANT (excl. el. exp.)	3+1	2

In-beam tests in ATOMKI

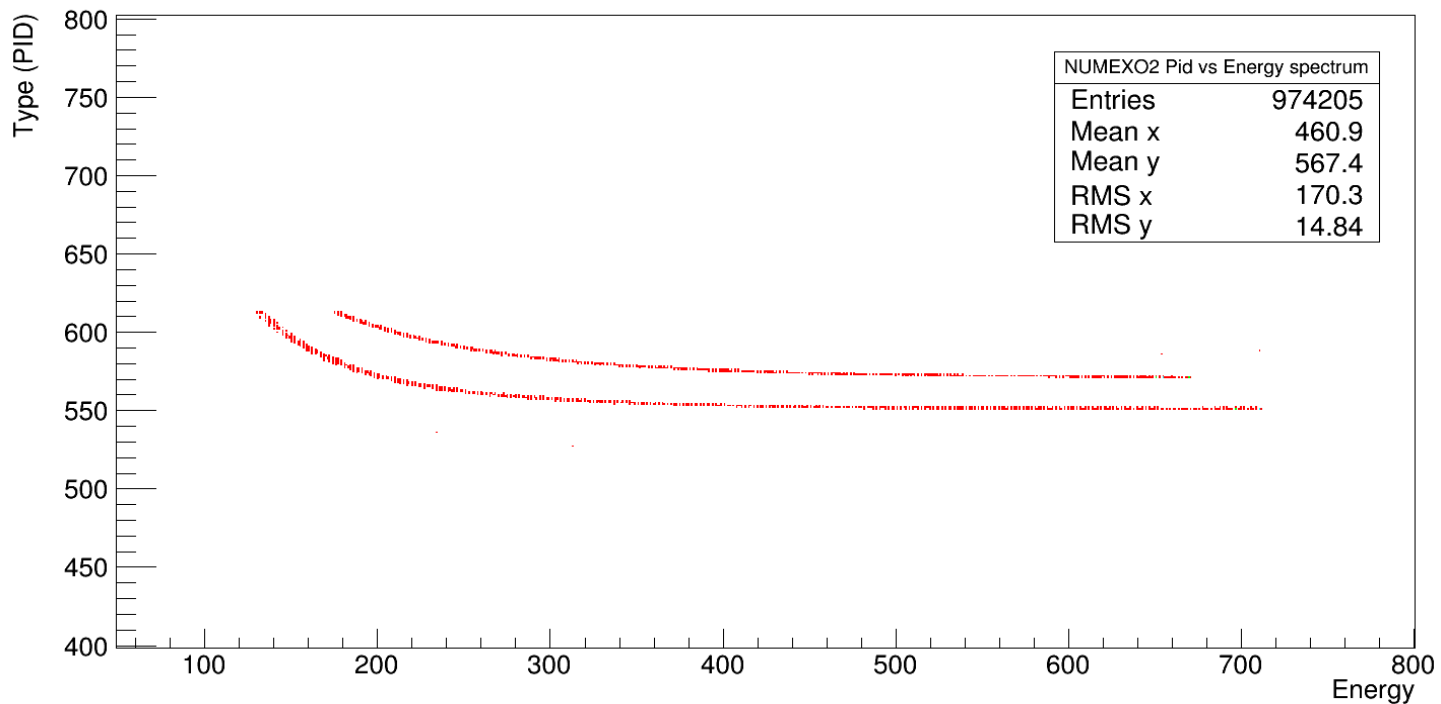

30 May – 3 June
13 June – 17 June

Trigger problems
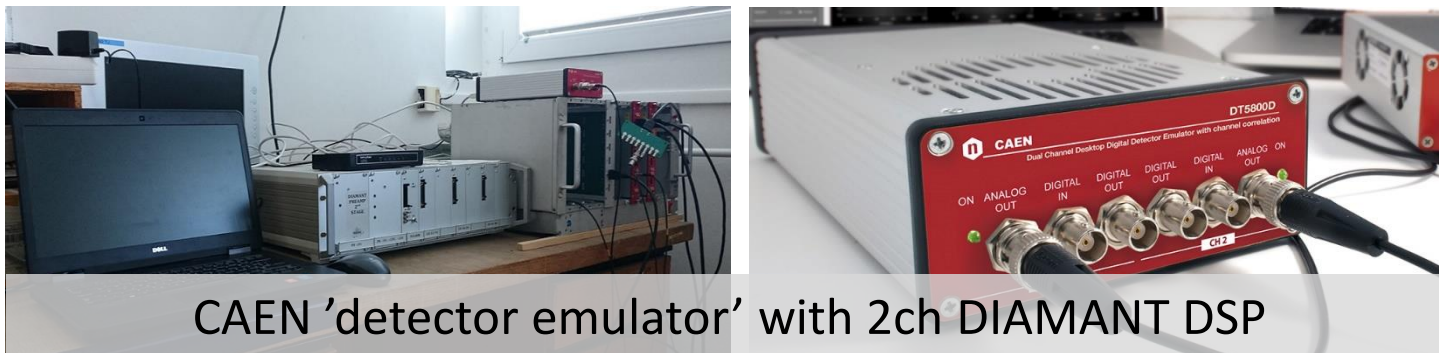
31 Oct – 04 Nov –> test of trigger
21 Nov – 25 Nov –> 2ch DSP test

(?) early January –> 16ch DSP test (?)

Current work

Trigger developments

CAEN 'detector emulator' with 2ch DIAMANT DSP

NUMEXO2 Pid vs Energy spectrum	
Entries	974205
Mean x	460.9
Mean y	567.4
RMS x	170.3
RMS y	14.84

Summary

- test bench, pulser, etc. working; building/flashing not a problem anymore

- initialization and register programming script, ROOT macros for analysis: done

- 2ch version of FW exists, has trigger problems

  –> investigating (w/ pulser) better trigger solutions than leading edge

- upgrade from 2 channels to 16 channels :

  –> definition and integration of usage of DIAMANT DSP specific

     additional control registers

  –> 16 channel FIFO reading arbitration unit

     (16 triggered channel -> 1 communication channel)

- integration of DIAMANT DSP control into Numexo ecosystem:

  –> modifications / additions to GECO

  –> custom Narval actor for a collection-time division (offloading FPGA)

- predictable problem (déjà vu… ☹): <u>MANPOWER</u>