China visit

May 2025

bergoz INSTRUMENTATION

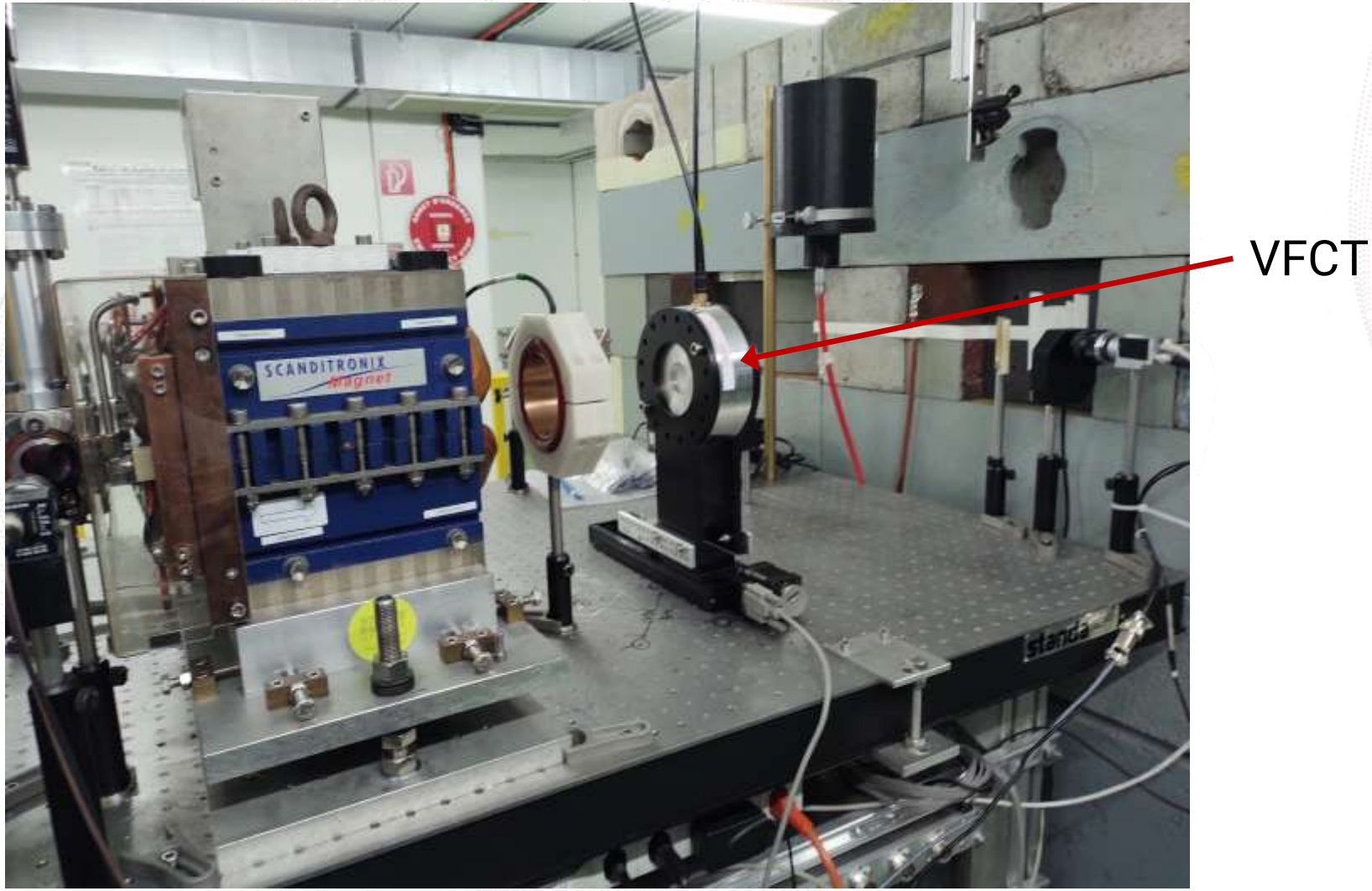
What's new?

- Release of the VFCT (Very Fast Current Transformer)
- I.FAST project completed: ripple measurement
- Digital module development

VFCT

- 1 V/A Sentivity
- Bandwidth up to 3 GHz
- Only available in CF6" flanges with inner diameter of 34.9 mm
- 40mm axial length

Very Fast Current Transformer @ CLEAR (CERN)



I.FAST

- Part of EU-funded I.FAST project
- Work package focused magnet stability for slow extraction
- Collaboration with CERN and GSI

- Resolution below 1ppm for a 40kHz bandwidth and at 5kA DC current

- Interested?

Digital modules

- Modular digitizer developed to complement our sensors

- Designed to be compatible with :
  - ACCT
  - ICT
  - NPCT
  - CWCT
  - Turbo-ICT

- Main features :
  - 2 Inputs (160 MS/s, 16 bits)
  - Gigabit Ethernet (300 Mb/s useful ethernet bandwidth)
  - >75 dB SNR at 160 MS/s
  - Human-readable UDP packets at each trigger
  - Soon EPICS compatible

Let’s measure!

Backup : UDP packet exemple

```
serial_number=PROTO-01
trame=294
trigger_number=329
raw_in1=[591,608,575,576,564,570,605,572,568,2318,55507,58629,59062,59474,59565,59652,59720,59777,59809,58077,715
8,1819,1413,1031,939,904,866,812,761,752,751,761,711,714,703,721,696,677,680,667,665,667,621,634,660,629,641,644,
656,645,636,600,638,626,615,642,616,631,633,630,624,641,610,630,596,597,618,614,630,589,595,599,615,607,577,592,6
10,593,581,592,586,583,608,586,576,624,585,596,558,604,572,576,590,592,571,594,580,591,605,574]
raw_in2=[32490,32489,32490,32496,32490,32493,32490,32485,32498,32483,32493,32493,32489,32486,32494,32494,32489,32
493,32494,32489,32483,32483,32493,32481,32488,32494,32488,32488,32493,32487,32489,32495,32482,32484,32493,32494,3
2489,32493,32493,32490,32490,32495,32496,32497,32493,32492,32495,32497,32489,32493,32491,32488,32492,32487,32494,
32490,32492,32492,32488,32489,32486,32491,32491,32491,32487,32490,32496,32493,32491,32490,32488,32490,32489,32494
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1,32493,32496,32494,32493,32484,32497,32490]
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