PT status and planning

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Outline

- Magnet commissioning and dry-run outcome

- Gunn diode status

- Planning

Magnet timeline

- 29/10 magnet at 4K

- 3/11 cryostat full with lHe

- 3/11 start MSS commissioning

- 11/11 dipole at full current

- 16/11 solenoid at full current

- 23/11 NMR communication test

- 24/11 safety region for field rotation check,

  dipole + to solenoid + to dipole +

Field rotation

18/01/2021 14:56:07

✓ iSolenoid (IE1000) (A)   0.00
✓ iDipole (IE2000) (A)   0.01
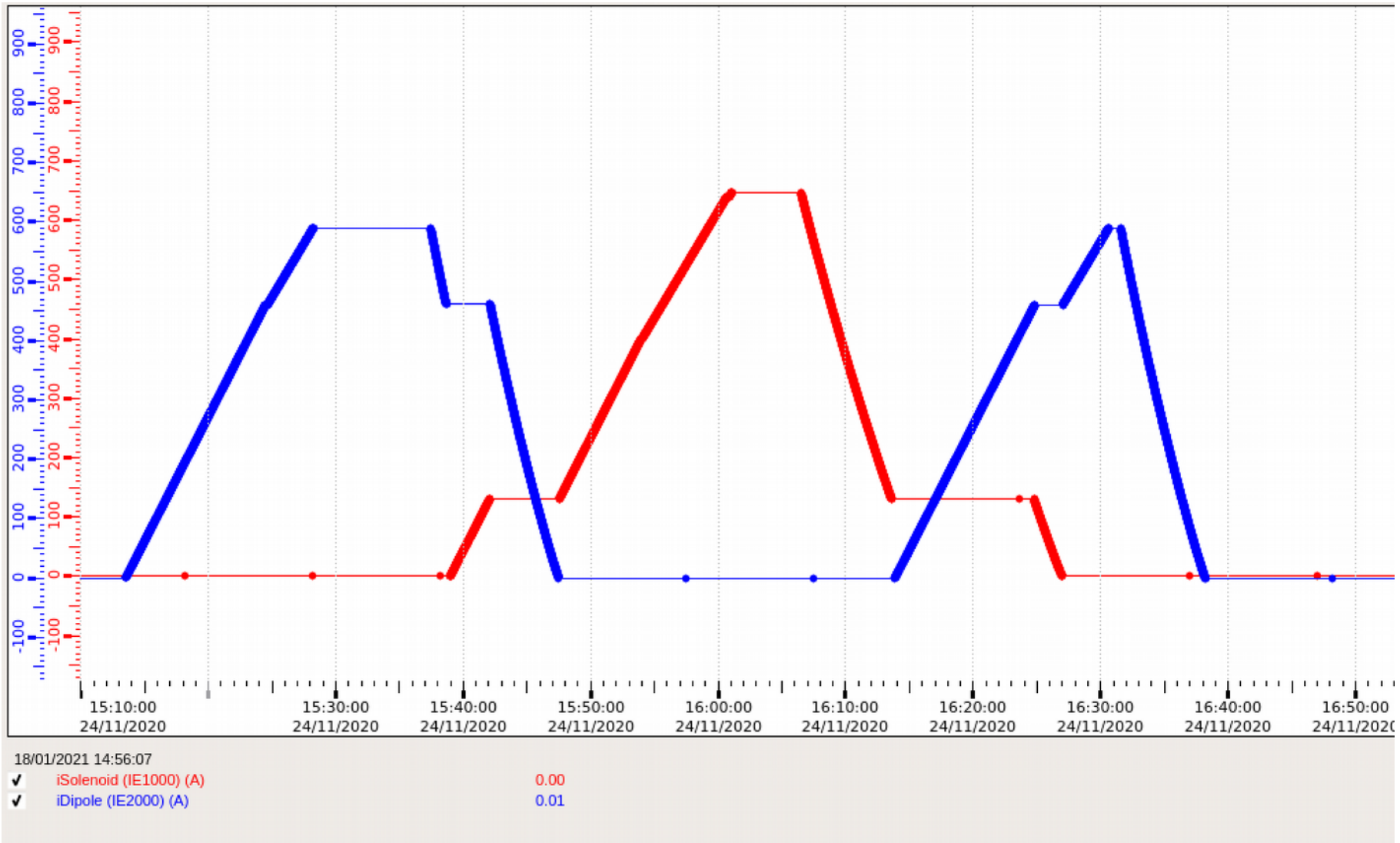
Magnet summary

- Magnet cooling test successful!

- Very efficient work with EP-DT

- Few minor hiccups due to upgraded power convertor system

- To be done before next cool-down:

  exchange LN2 turret o-ring

  clean power cables connection at magnet turret

  check lHe level gauge

Gunn diode test

- Gunn diode delivered in October
- 1/12 First test in "laboratory conditions"

Gunn diode Power supply

Control PC

Oscilloscope

10 MHz reference

Gunn diode

Gunn diode test

- 3/12 move the test setup to 888

- Successful generation without magnetic field

- Generation stopped in magnetic field (~30mT)

- Fuse exchanged in the PS

- 7/12 measure cooling fan consumption in magnetic field

- Exchange 5 A fuse for 10 A

- 8/12 USB connection problem → fix USB connection in the synthesizer box

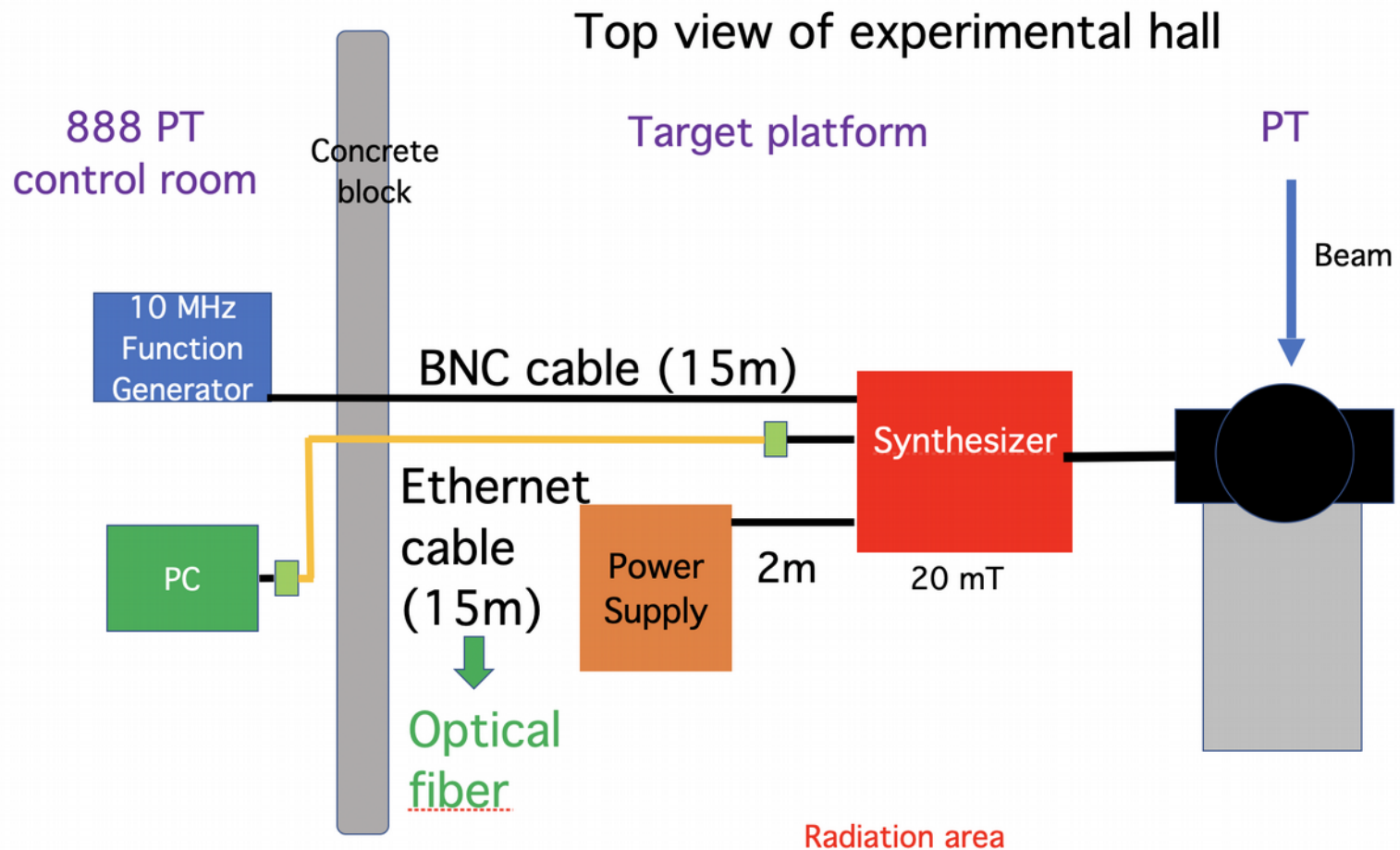- 9/12 successful generation with and without field

Gunn diode test

- Full system sent back to manufacturer for modifications:

  improve the cooling system (fans)

  frequency modulation

  larger frequency range (currently 69.8-70.2 GHz)

  fuse holder (for easier fuse exchange)

  heat protection and temperature monitoring (via DCS)

Gunn diode installation

- New support table needed (about 1 m from DR)
- New air blower to be installed (cooling)
- Long wave guides needed

Top view of experimental hall

888 PT control room

Concrete block

Target platform

PT

Beam

10 MHz Function Generator

BNC cable (15m)

Synthesizer

Ethernet cable (15m)

Power Supply

2m

20 mT

PC

Optical fiber

Radiation area

General

- LHe stopped on 8/12 –> warming up

- Diffusion pump stopped on 16/12

- 3He circuit to be reconnected

Planning
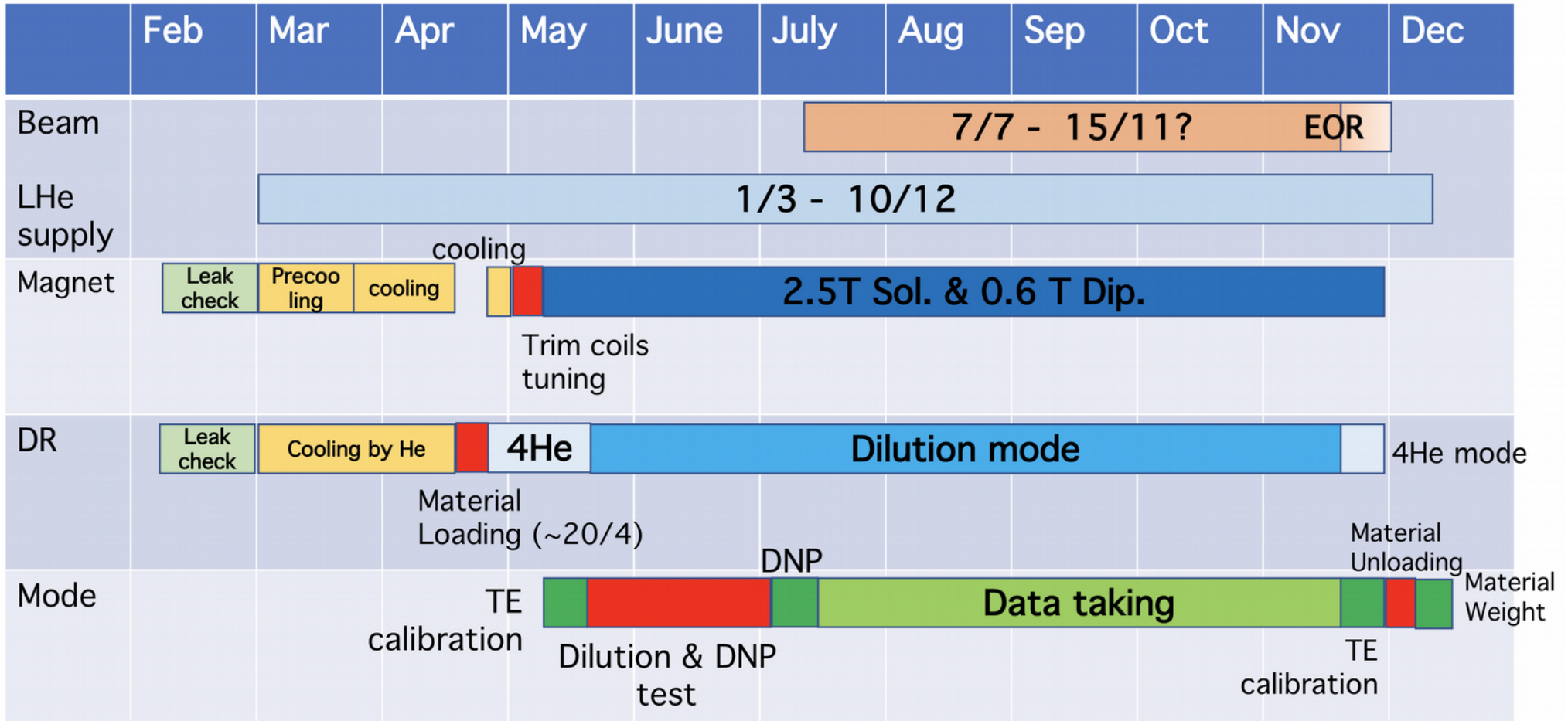
Manpower

- Nori, Christophe, MP
- Jaakko:available
- Gerhard R., Kaori, Stefan R., others: tbc

Spares

Safety region for field rotation

MSS for field rotation