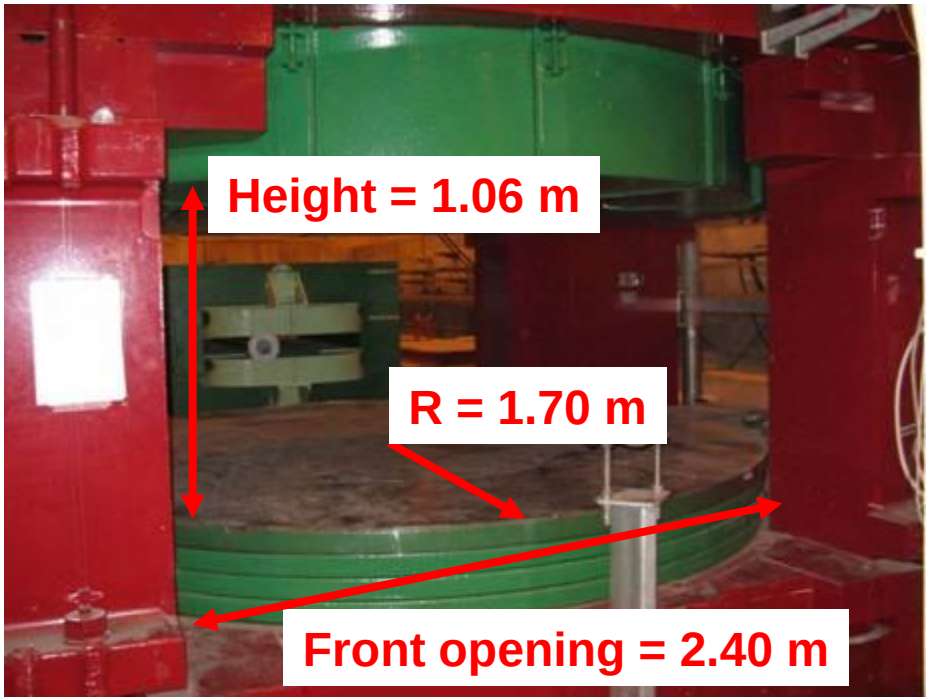
RD51 Test beam 2010

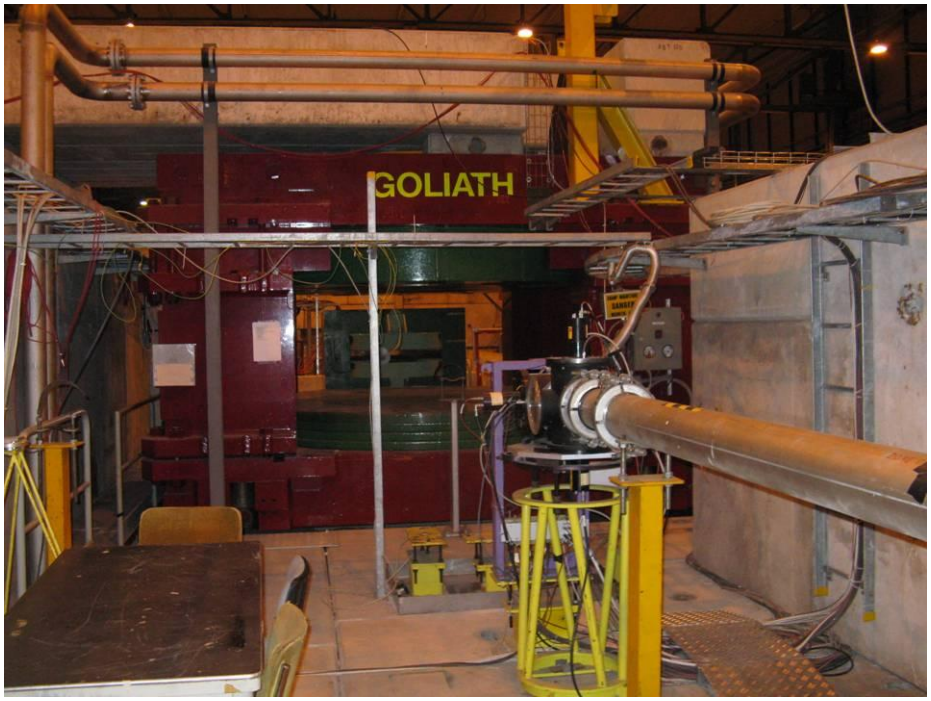
Outline

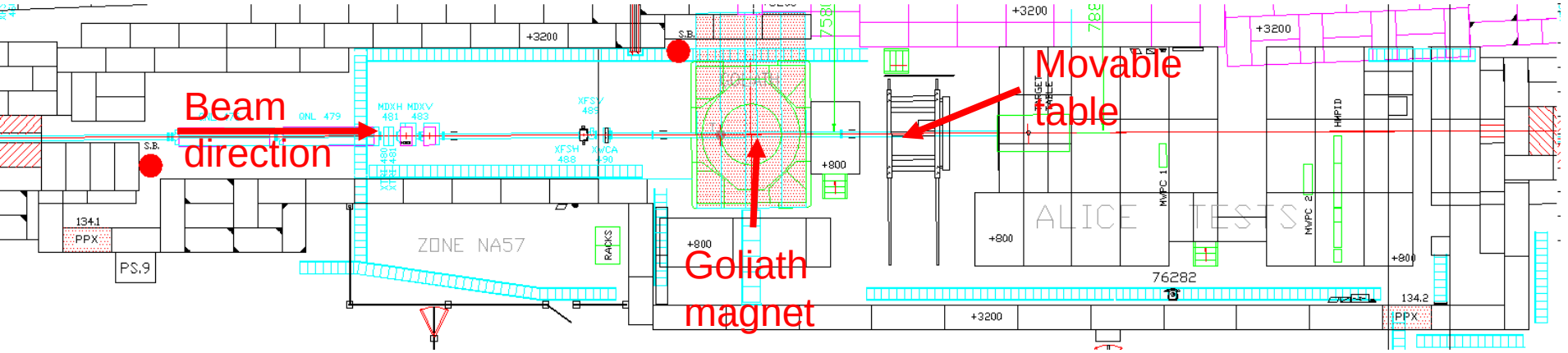
- General area description and available services
- Safety
- Schedule
- Period 1 setup
- Final recommendations
- Special annoucement

Experimental area & services

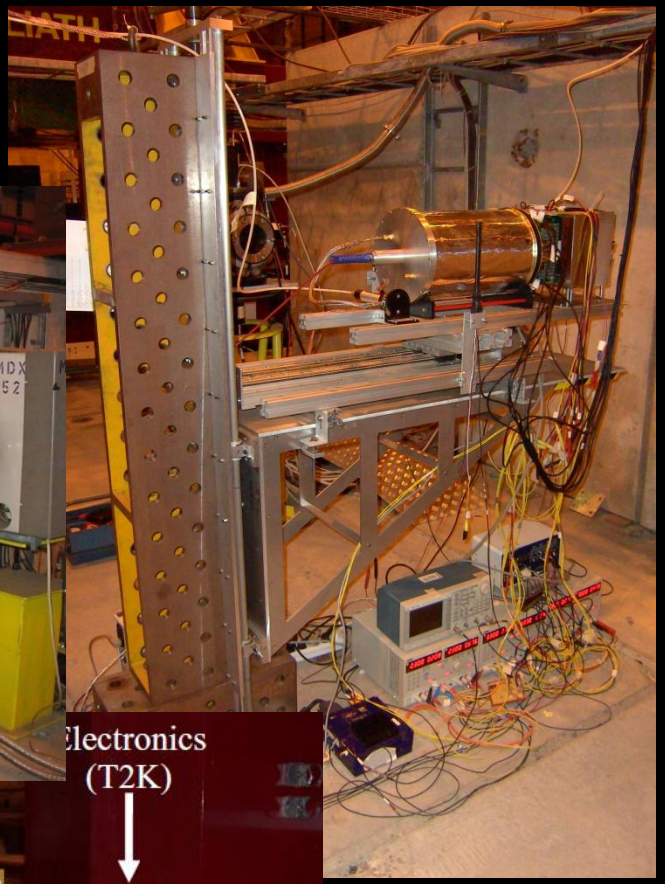
SPS/H4 line at Prevessin North Area

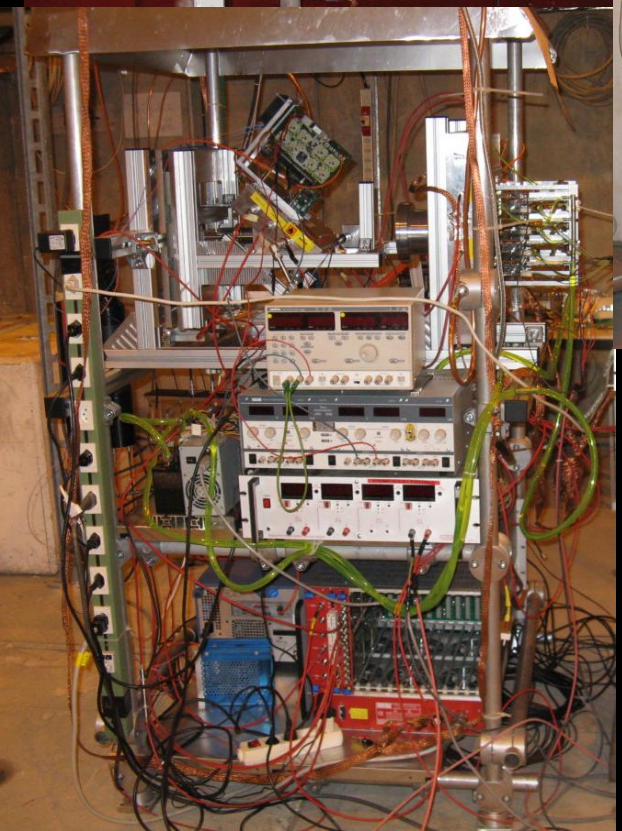


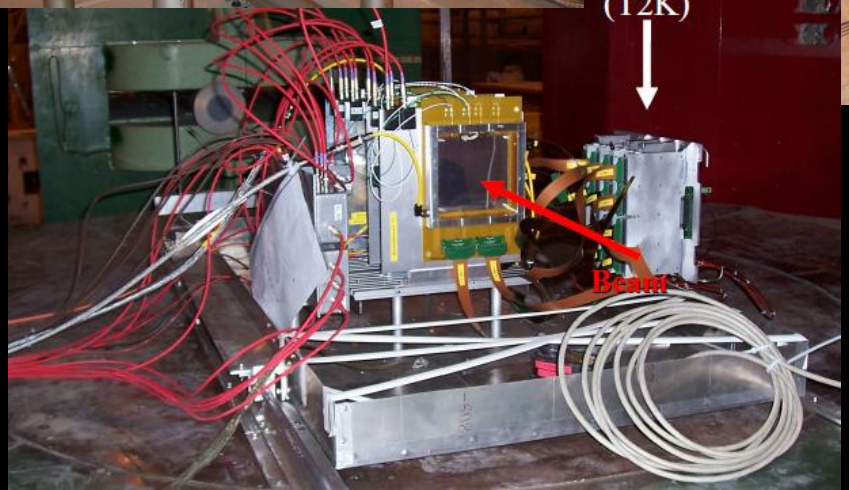




Pictures of previous RD51 setups

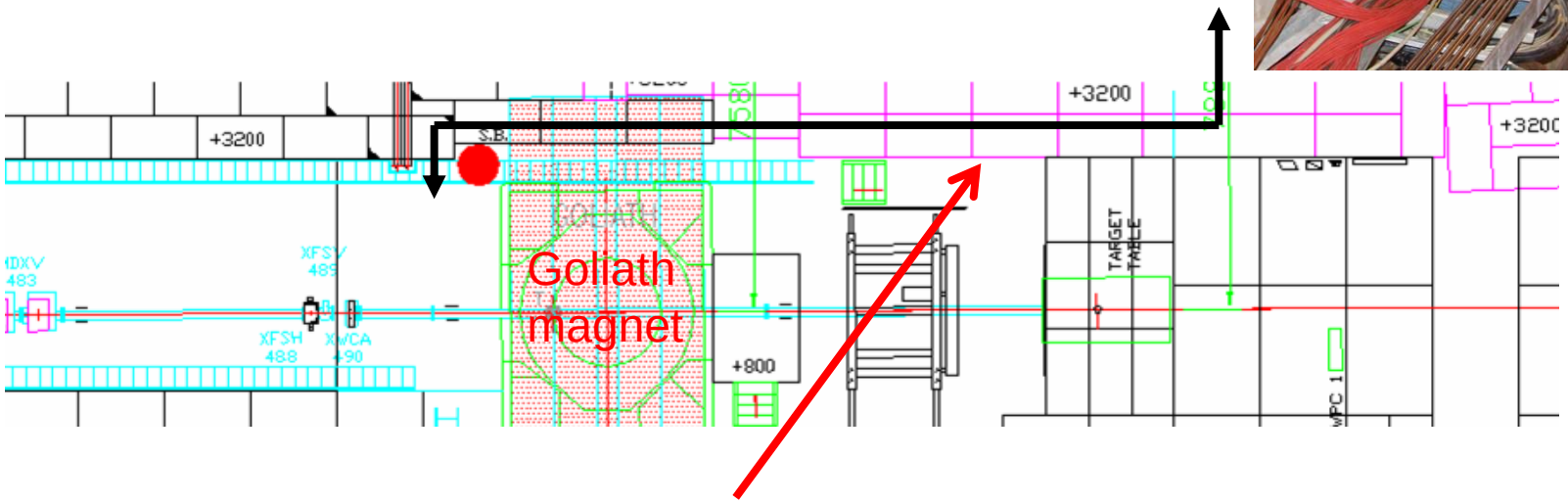






Gas services

- Stainless steel from gas zone to a patch panel in the experimental area
- 5 RD51 lines, each with 6mm diam. pipes for inlet and 10mm diam. pipes as return lines



- 1 additional 8mm diam. copper line (inlet + return) from SPS group
- exhaust lines (= going out of the building):
  - 16mm diam. copper tube with flange type fitting
  - 2 in the experimental hall, 1 in the gas zone

RD51 cables and fibers

From the control room to the experimental area:

- Fiber line x2
- Ethernet lines x3 + 2 small switches at both sides
- SHV lines x4
- 2 x 16 LEMO coaxial cables
- Many other BNC, fibers, SHV cables installed by single RD51 members.. Please ask them before using

VERY IMPORTANT REMARK:

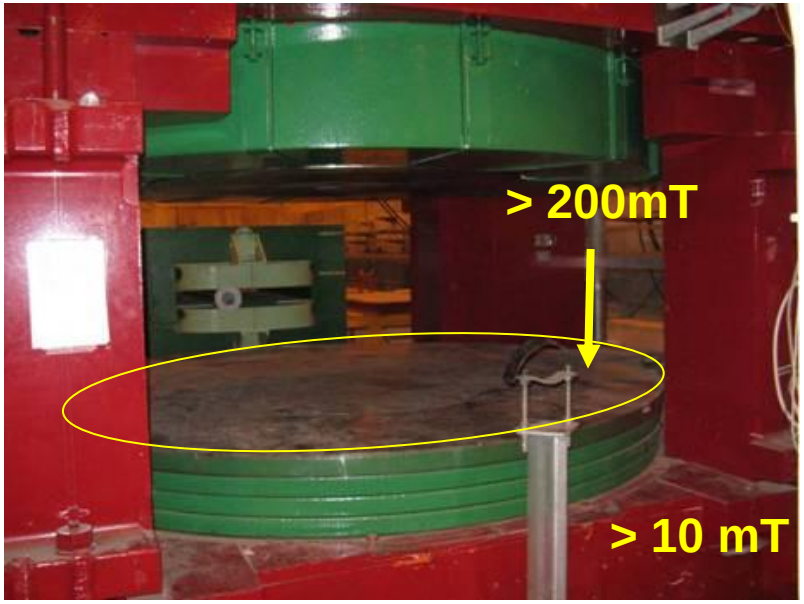
Services from the control room to the experimental hall can be installed only during Machine Development slots, where all beams are off!

Crates, HV PS, ..

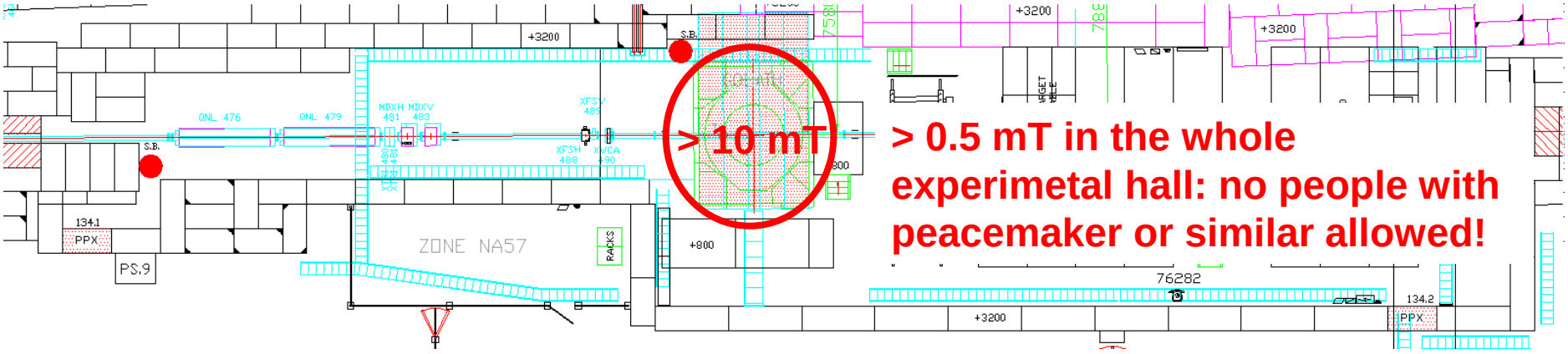
- Test beam users can share racks
- NIM, VME crates and modules can be rented from the CERN electronic pool
- Common crates and (in some cases) common electronics module can be charged on RD51 WG7 common funds
- The CAEN 1527 mainframe can be rented to supply HV and LV to all test beam users (please let us know the number and type of required channels!)

Hazards and safety aspects

Magnetic field hazards



- The magnet reaches 1.4T in the central part of the yoke
- All the yoke and coil surfaces has a magnetic field larger than 200mT, the limit for the worker
- Around the magnet a line on the floor delimits the area of 10mT, the limit for the public
- The whole experimental hall is affected by a magnetic field larger than 0.5mT, the limit for people wearing peacemaker or similar device



Access limitations and rules

- No people wearing peacemakers or metal implants or similar sensitive devices are allowed in the experimental area. Check with your medical service if this is your case.
- You are allowed to work in the experimental area after reading carefully this presentation and the general presentation by CERN Safety Commission about static magnetic field hazards, and after learning the position of emergency equipment (red button, emergency button..)
- Check with the medical service of your home institute for special autorizations or procedures to work with magnetic field. CERN people must communicate their names to the medical service, if they will work inside the magnetic field.
- Remember that: workers can operate at fields larger than 10mT, but recordings must be produced with exposure start, duration and value; the exposure of workers must be avoided if it is not strictly necessary; nobody can stand for a 8h working day inside a magnetic field larger than 200mT.

These restrictions will apply in every RD51 test beam, even if your team is not involved in the setup inside the magnet, even when the magnet is off.

Limitations for detectors and other devices in the magnetic field

- Any device that will equip the setup inside the magnet must be checked for ferromagnetic material
- These devices must be strongly fixed in the setup
- Take into account that metallic devices are subject to eddy currents when the magnetic field change too fast (e.g. for a magnet quench). Eddy currents can induce movements on such devices

Radioactive sources

The use of calibration radioactive source inside the magnetic field must be avoided.

E.g. the casing of the actual ^{90}Sr source contains ferromagnetic components and it would be attracted by the field.

Any exception, if really necessary, must be discussed with the GLIMOS

Calibration source cannot be exposed to beam: before leaving the area they should be locked in the safe.

Flammable gas

- All the setups and using flammable gas must be equipped with a retention bucket/roof and an alarm sensor
- Limit connections: they must be equipped as well with alarm sensor
- Metallic pipes (few cm plastic pipe for detector connection are derogated)
- Lines must be purged at the beginning/end of the period (the main distribution lines are 20mm diam. 150m long lines!!!)

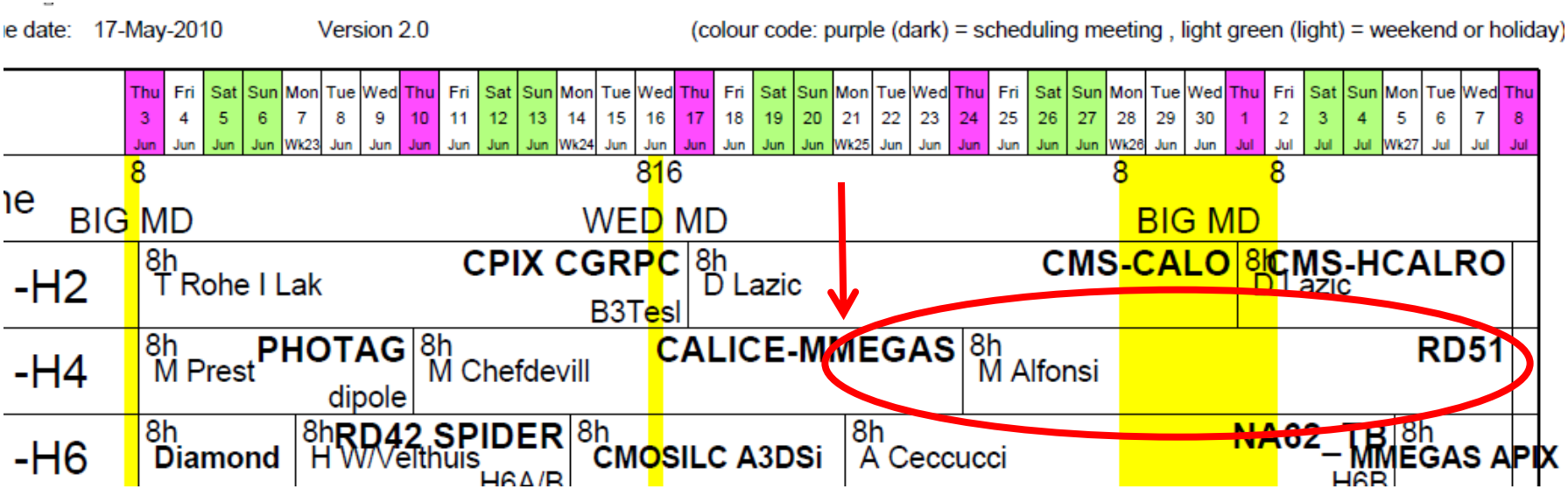
ISIEC form

We need the filled ISIEC form before the end of the week.

Please send us the document as soon as possible

Schedule and Period 1 setup

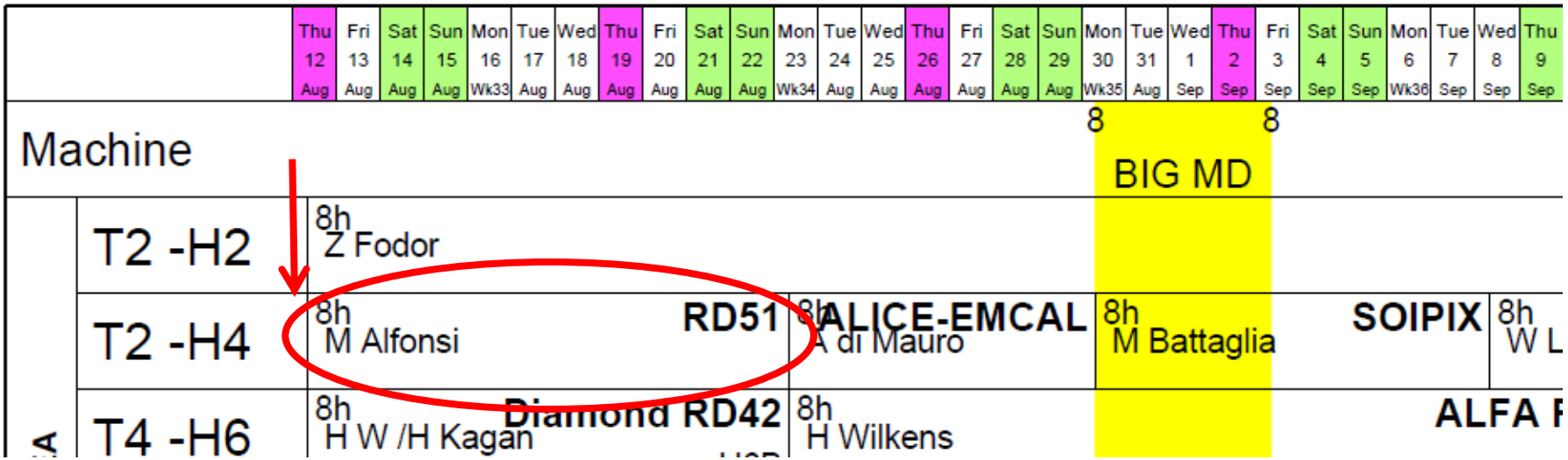
Period 1 schedule



- Agreement with CALICE-MMEGAS:
  - All people start earlier on June 21st at 8h00
  - Installation must be completed by the end of the day
  - We run parasitically up to 25th at 8h00
- Flammable gas installation must be completed before 15h00 !

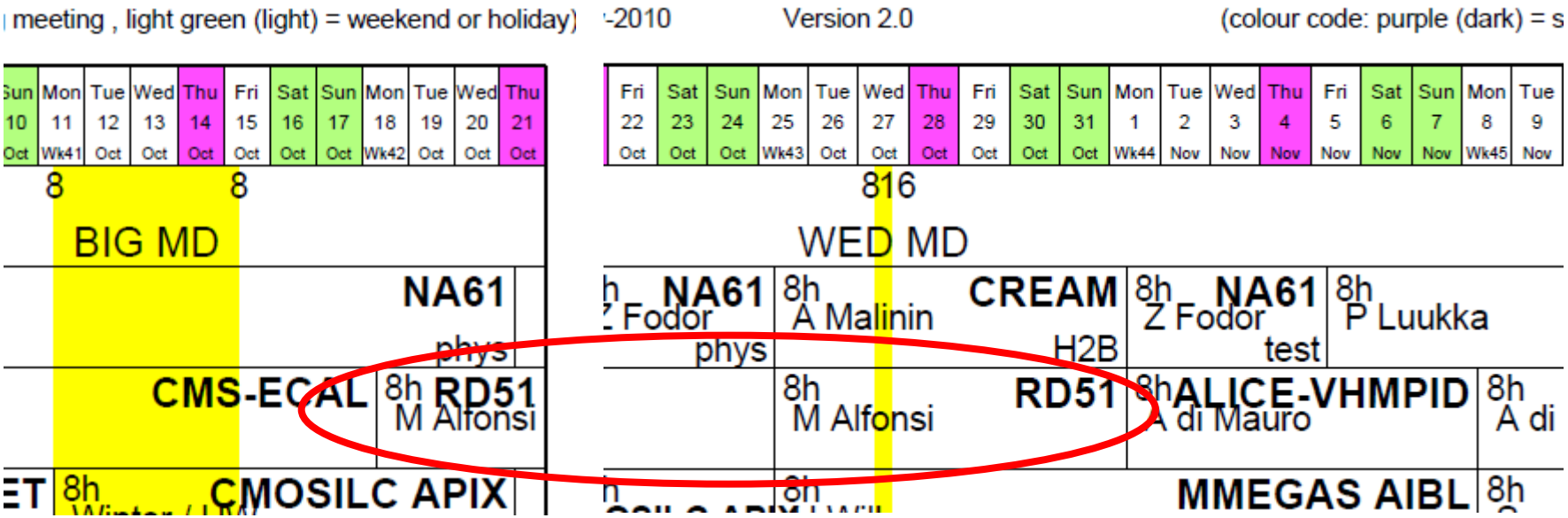
Period 2 schedule

Schedule issue date: 17-May-2010 Version 2.0 (colour code: purple (dark) = scheduling meeting , light gree



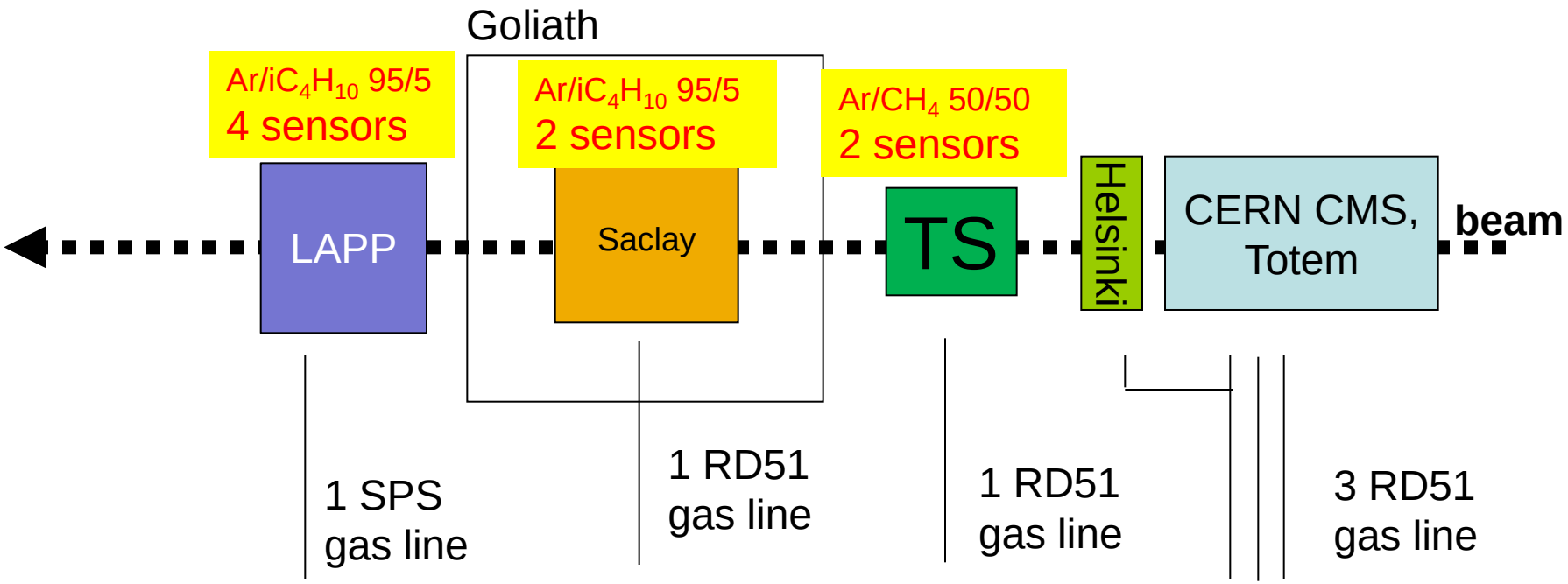
- Installation start on August 12th at 8h00
- Flammable gas installation must be completed before 15h00 !

Period 3 schedule



- Installation on October 18th at 8h00
- Flammable gas installation must be completed before 15h00 !

Period 1 (June 21st – July 8th)



Total sensors in the experimental area: 8
Total sensors in the gas zone: 2
Flammable gas: isobutane, methane

Conclusion

Reminders and recommendations

- Send your gas cylinders orders a.s.a.p. They must be delivered to gas point:
  - 887-G0-921 if not flammable
  - 909-G0-921 if flammable
- Let us know a.s.a.p. if you need HV/LV channels, NIM/VME crates, etc..
- Prepare your installation in advance, in order to complete it the first day
- Cables, fibers, etc. from control room to experimental area can be installed only during MD: the next one is from May 31st to June 2nd
- Send filled ISIEC form a.s.a.p.

Let's conclude TB with a BBQ!

- I booked the Prevessin BBQ area (just outside the building) for the last TB day (8th July)
- Please let me know the number of people that can stay until the end of the day!