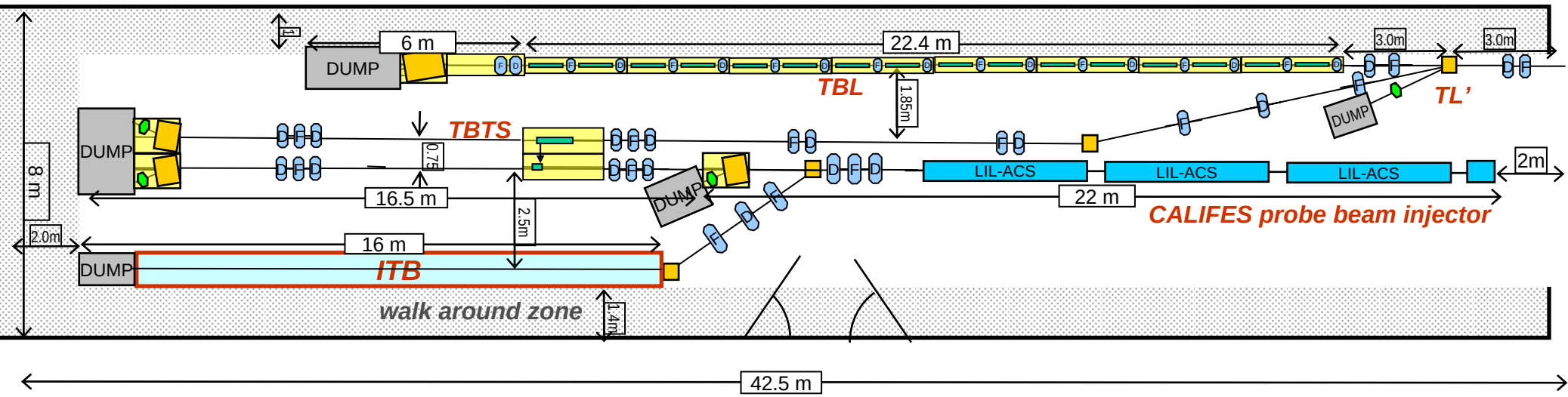
Questions and Answers

L. Rinolfi

CLEX layout



Goal: Clarify as much as possible with all Institutes / Collaborations the questions which are still open

The information below are based on the input known today and should be updated

Overview

- Magnets
- Power supplies
- Beam diagnostic
- Radiation monitoring system
- Vacuum
- Klystron
- Alignment
- Civil engineering
- Cooling and ventilation
- Controls
- Planning

Magnets

Contact person: Thomas Zickler

CERN provides:

- ✓ Dipoles for spectrometer lines
- ✓ Solenoids around LIL sections (2 x 17)
- ✓ Correcting coils around LIL sections

All other magnets provided by the Collaborations

Dipole Type BHB

(or MDX)

Power supplies

Contact person: Roger Genand

Power supplies for the Test Stand 30 GHz paid by Uppsala Collaboration

All power supplies provided by CERN with standard control

=> Collaborations should provide the requested characteristics

Beam diagnostic (BPM's)

Contact person: Lars Soby

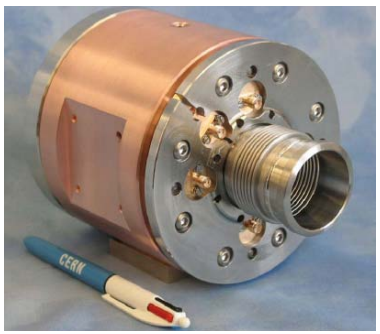
CERN BPM = Beam Position Monitor (Φ 40 mm)

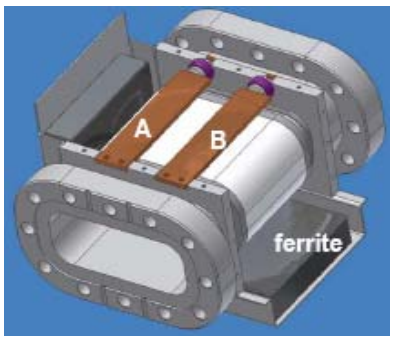
INFN BPM = Beam Position Monitor (section 90 x 40 mm)

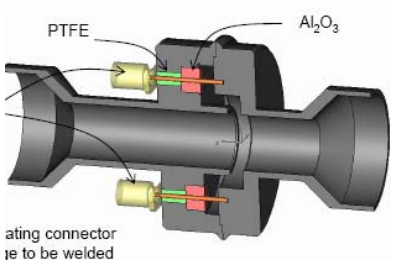
CEA BPM = Beam Position Monitor (Φ 40 mm)

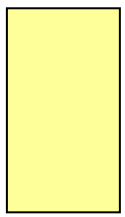
CERN WCM

NWU BPR = Beam Position Monitor (for bunch length behavior)









CLEX meeting CERN
12th July 2006

INFN

CEA

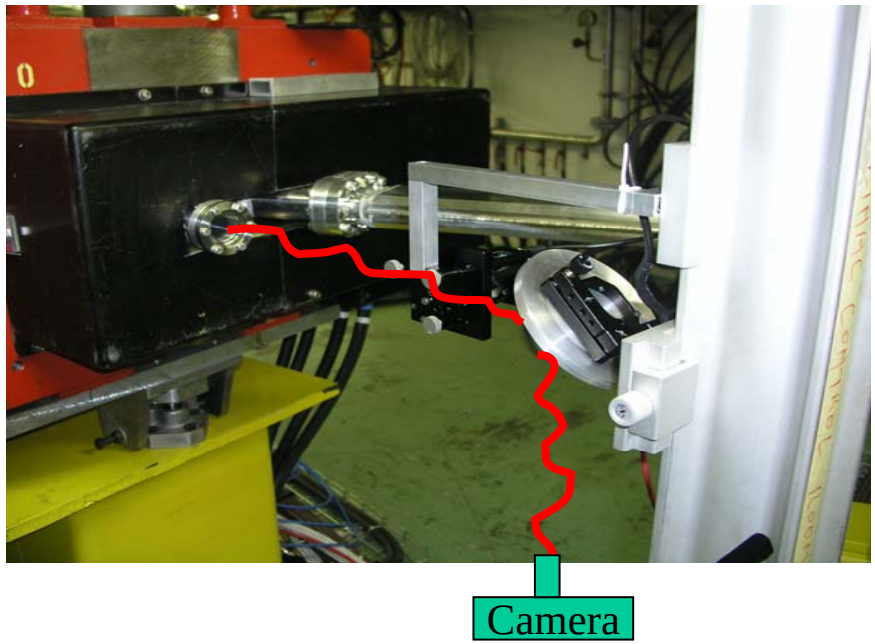
Spain

NWU

Beam diagnostic (MTV)

Contact person: T. Lefèvre

MTV = Ensemble camera & mirrors from scintillator screen or from synchrotron light



Synchrotron light output from a dipole

Radiation monitoring system

Contact person: Markus Rettig

Existing System

ARCON (developed for LEP)

6 monitors for stray radiation survey

3 monitors for induced activity

→not possible to extent to future needs.

Future system for CTF3 operation with CR and CLEX:

RAMSES (developed for LHC and CNGS)

8 additional detectors for stray radiation survey

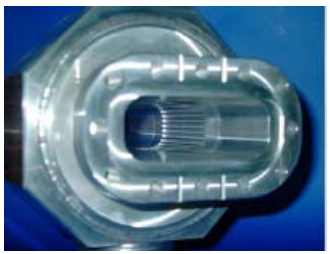
11 additional detectors for induced activity monitoring

Vacuum

Contact persons: Jan Hansen, Jean-Pierre Bertuzzi

CERN Standard should be applied by Collaborations

- The vacuum chamber components are in Stainless Steel or Aluminum alloy (The latter is best suited for radiation issues and minimize the resistive wall effects).



Vacuum chambers, pumping ports and bellows by LNF / INFN for the Delay Loop

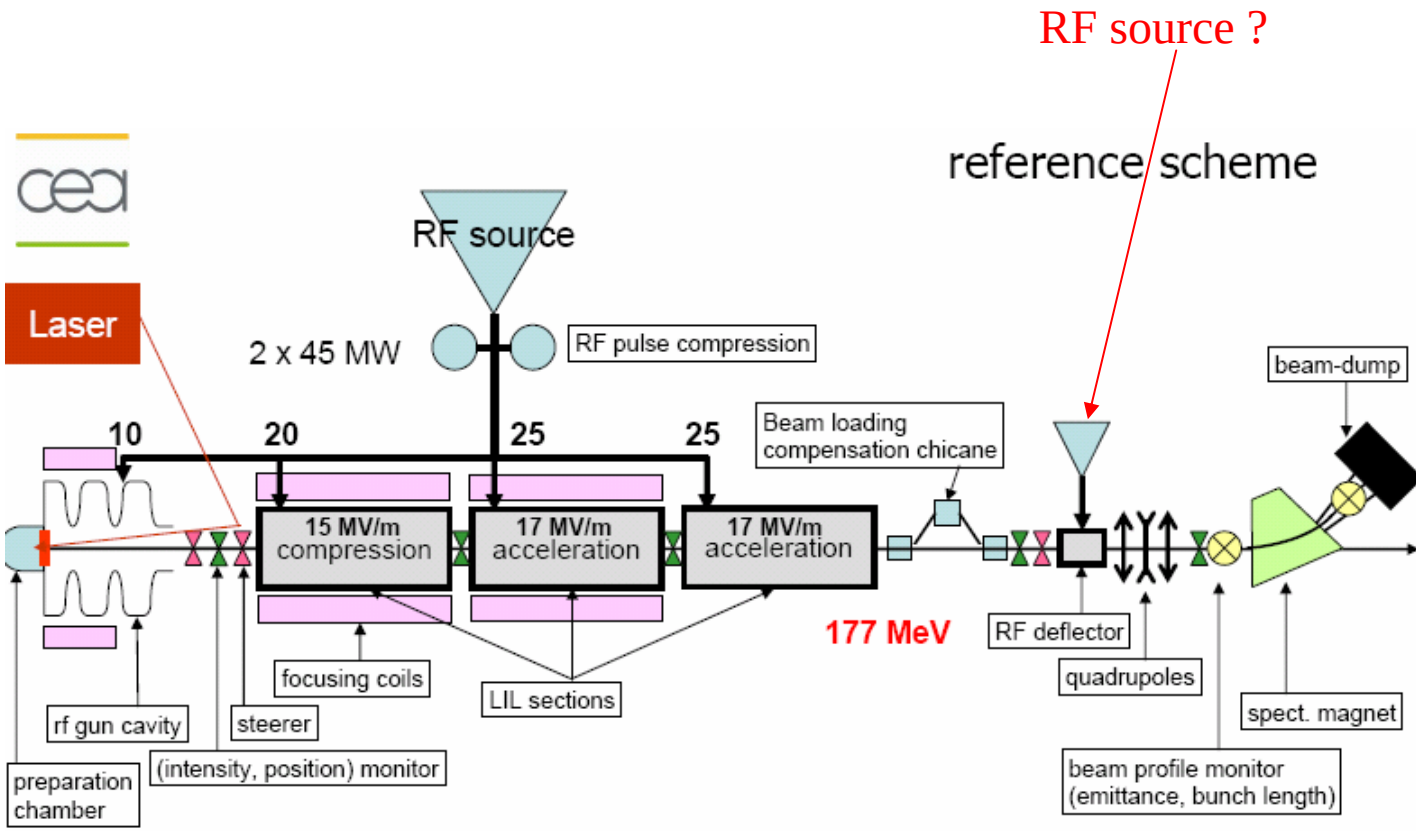
- For TL2 => India collaboration (Extruded pipes)
- Vacuum control (HV, gauges,…) according to CERN standard

No bake out except for the RF gun of CALIFES

Klystron, modulator and RF

Contact persons: Gerry McMonagle, Ghislain Rossat, Jean Mourier

- CERN provides 1 klystron 43 MW and waves guides network
- CEA/DAPNIA provides 1 modulator and RF components
- CERN provides components of the low level RF



Alignment

Contact persons: Tobias Dobers, Frank Tecker

- MAD-X used for the geometrical data
- Alignment made by Survey group (TS/SU) within ± 0.1 mm

=> Information about targets and jigs should be provided by Collaborations

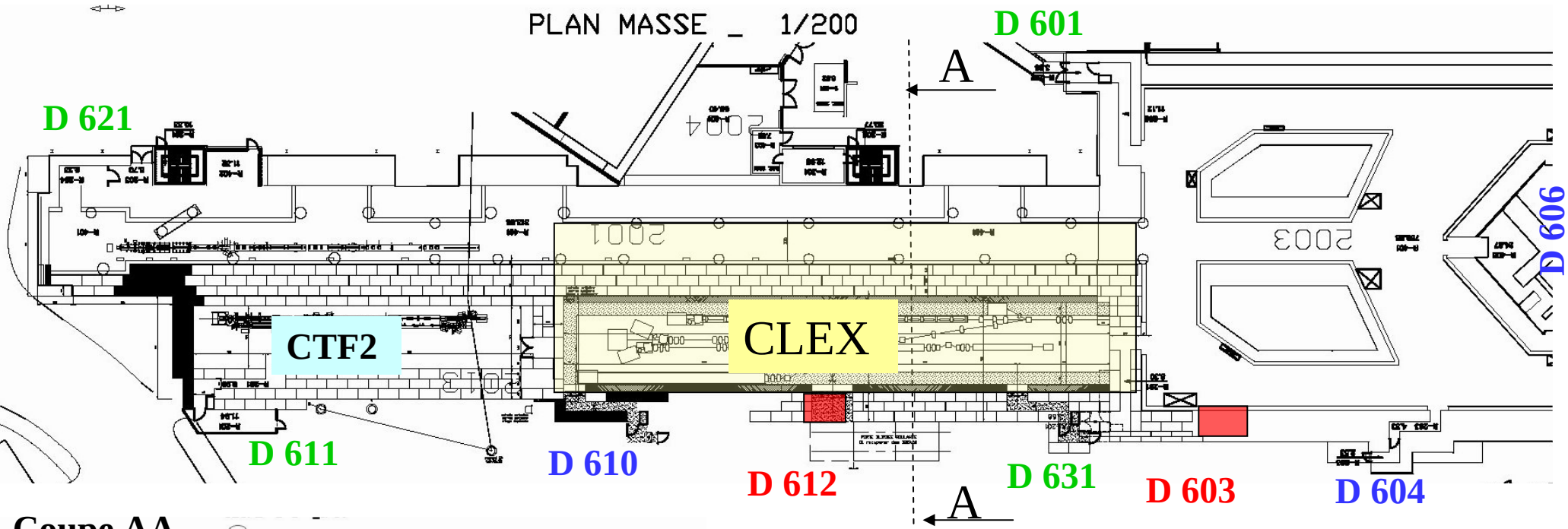
Alignment of a CERN BPM

Type Q*D

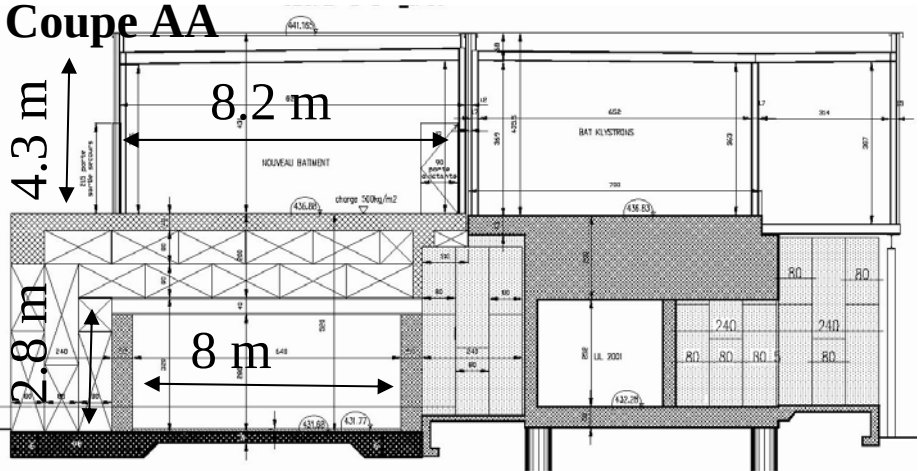
(or QL3)

CLEX Civil engineering

Contact person: Michael Poehler



Coupe AA



D 6x1: Doors with access control

D 6xx: Safety issues

D 6xx: Doors closed with concrete blocks

Cooling and Ventilation

Contact person: Yannic Body

Demineralized water P = 13 bars (for magnets, etc…), T = 25 °C

Thermalized water T = 30 °C (for RF components) P = 5 bars

Compressed air P = 8 - 10 bars

Air conditioning installed later on

600 kW in CLEX

Controls

Contact person: Stephane Deghaye

- FEC Hardware
  - VME: powerPC/LynxOS
  - cPCI: x86/Linux
  - PLC: Siemens
- FEC Software
  - FESA: C++ framework
- High Level Software
  - Java (Swing for GUI) + CMW (CORBA) for com. with FEC
- Control Generic Applications
  - Basic Control: Working Sets + Knobs
  - Analogue Signals: XsamGen + OASIS
  - Alarms: LASER

Planning summary

CLEX: building ready: end 2006
ready to install equipment: Mid June 2007
Klystron gallery: building ready: March 2007
ready to install equipment: Mid June 2007

TL2: Install 2. half 2007
TL2*: Install end 2007

Beam in CLEX : from March 2008 onwards

Two-Beam test stand : First beam as early as possible: April 2008

Probe Beam

Laser In “old" laser room above CTF2: from mid 2006
In CTF3 earliest beginning 2008
Califes installation half year 2007
Commissioning in parallel with TBTS and PETS tests (2008)

TBL : goal first tests in March 2008

Conclusion

If some questions remains unclear

Please ask for clarification