



#### Goals & milestones 2008 run

- 1st run (April June)
  - Injector & Linac: establish stable & documented working point, automatic beam steering & steering algorithm studies, diagnostics consolidation, stability studies, EUROTeV BPMs
  - Delay Loop: complete beam optics measurements (dispersion, orbit, kick measurements, matching), re-establish combination
  - TL1 & combiner ring: complete optics studies (dispersion, closed orbit correction, matching, tunes, kick measurements, quad displacement evaluation, matching), tune and β function dependence of vertical instability, factor four combination with DL bypass (≥ 10 A)
  - DL, TL1 & CR: factor 8 combination (≥ 15 A)
- 2nd run (July September)
  - Complete DL + CR, new RF deflectors (20 A ?)
  - TL2 commissioning
  - First CALIFES commissioning
  - TBTS commissioning (no PETS)
- 3rd run (September December)
  - Complete above program
  - Coherent Diffraction Radiation tests
  - TBTS, PETS running in

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#### Injector & first part of linac

**Gun working point** 

stable & documented working

point





diagnostics consolidation



#### Segmented dump in Spectro 10

R. Corsini - CTF3 Committee 15 May 2008

automatic beam steering & steering algorithm studies



#### Trajectories, comparison with model



Quad scans

#### "Standard" program



![](_page_7_Figure_5.jpeg)

#### New Piotr's program

- · Adapted to non-standard scans, multiple quads
- Errors
- Online rejection of data points
- Choice of fitting routines
- Integrated in the MAD model
- ...

#### Good agreement with "standard" program

![](_page_7_Figure_14.jpeg)

![](_page_7_Figure_15.jpeg)

**Reference plane Quad scans - matching** Measurement point State Page Landscape 1.000 BBox 08/05/07 12:24 File madx.ps Variable Size Start re-matching Open Print All PTC Configuration with given qud AAp Xe 3:04:26ts07/05/08 12.26.17 40. Print Marked beta11 beta11, beta22 beta22 Save All Save Marked 35. **Reconstructed back** 30. << >> Redisplay 25. \*0 \*0 \*0 0 20. 2 3 4 5 6 7 8 15. 10. 5. 0.0 15. 25. 30. 0.0 5. 10. 20. 35. 40. s (m)

![](_page_9_Figure_2.jpeg)

**Reference plane Quad scans - matching** Measurement point State Page Landscape 1.000 BBox 08/05/08 13:05 File madx.ps Variable Size Start 177 x 272 re-matching Open Print All PTC Configuration with given MAD 103004126 e08s/05/08 13.10.22 25.0 Print Marked beta11 beta22 beta11, beta22 Save All 22.5 Save Marked **Re-measured**, 20.0 **Reconstructed back** << >> 17.5 Redisplay 15.0 \*\*\*\*\*\*\*\*\*\* 12.5 2 3 4 10.0 5 6 7 7.5 ô 5.0 2.5 0.0 20. 25. 35. 5. 15. *3*0. 10. 40. 0.0 s (m)

![](_page_11_Picture_0.jpeg)

#### stability studies

# RF pulse compression temperature stabilization

#### [ools

![](_page_11_Figure_6.jpeg)

#### stability studies

## RF pulse compression temperature stabilization

![](_page_12_Figure_4.jpeg)

stability studies

#### Gun HV (in)stability

![](_page_13_Figure_4.jpeg)

stability studies

# Typical beam jitter in quiet conditions

![](_page_14_Figure_4.jpeg)

<sup>~ 100</sup> µm

**EUROTeV BPMs** 

#### **Transmission puzzle**

![](_page_15_Figure_4.jpeg)

**EUROTeV BPMs** 

#### Data, other puzzles...

![](_page_16_Figure_4.jpeg)

#### Beams

- Nominal 3 GHz (4 A)
- Nominal 1.5 GHz (4 A)
- 1 A short pulse
- Nominal 3 GHz variable length
- CALIFES beams

- for DL, CR commissioning
- for DL, CR commissioning
- EuroteV BPM
- bypass DL/CR, commiss. TL2, TBTS (no PETS), TBL

•  $\Rightarrow$  ultimate beams in CLEX

#### R. Corsini - CTF3 Committee 15 May 2008

#### Organization

- Two turns / day (8:00-14:00, 14:00-20:00)
- Daily meeting at 14:00
- One machine responsible per turn (RC, SD, FT, PS) + one "co-pilot" (SB, AD, HS, OM, EA...)
- Plus collaborators

+ RT, MM

#### Tentative Schedule – First run

![](_page_19_Figure_3.jpeg)