



Intro to Instrumentation Sessions



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CLIC Worksop – Instrumentation

CERN

17th October 2007

- Agenda
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17/10/07

13:40->19:00 Instrumentation Wkg (Convener: Grahame Blair (*Royal Holloway, Univ. of London*), Thibaut Lefevre (*CERN*)) (Location: [354-1-001](#))

13:40 Overview of the CLIC Instrumentation (10') Grahame Blair (*Royal Holloway, Univ. of London*)

13:50 Requirements on the CLIC Drive Beam
Instrumentation (20') Erik Adli (*European Organization for Nuclear Research (CERN)*)

14:10 Requirements on the Beam Delivery system Instrumentation (20') Rogelio Tomas (*CERN*)

14:30 From CTF3 to CLIC (20') Thibaut Lefevre (*CERN*)

14:50 Development of BPM electronics at LAPP (30') Louis Bellier (*LAPP*)

15:20 BPM Development at CEA/Saclay (10') Wilfrid Farabolini (*CEA DAPNIA*)

15:30 Coffee Break

15:50 EuroTeV High Precision BPM (20') Lars Soby (*CERN*)

16:10 EuroTeV High Bandwidth Wall Current Monitor (20') Alessandro D'Elia (*CERN*)

16:30 The effect of pair backgrounds on the TP stripline BPM (20') Anthony Hartin

16:50 Beam halo monitoring (20') Thibaut Lefevre (*CERN*)

17:10 High precision phase monitoring (20') Alexandra Andersson

17:30 CLIC luminosity monitors (10') Thibaut Lefevre (*CERN*)

17:40 Discussion (1h00')

09:00->12:20 Instrumentation Wkg (Convener: Grahame Blair (*Royal Holloway, Univ. of London*) , Thibaut Lefevre (*CERN*)) (Location: [354-1-001](#))

09:00	Non interceptive single shot bunch length measurement <small>(30')</small>	Anne Dabrowski (<i>Northwestern University</i>)
09:30	Beam instrumentation development at Uppsala University <small>(30')</small>	Arnaud Ferrari (<i>University of Uppsala</i>)
10:00	Coherent Diffraction Radiation and Applications at CLIC <small>(30')</small>	Pavel Karataev (<i>RHUL</i>)
10:30	Nano BPM studies and Possibilities for CLIC <small>(20')</small>	Stewart Boogert (<i>RHUL</i>)
10:50	Coffee break	
11:10	Laser-Wire studies at PETRAIII and ATF2 <small>(20')</small>	Grahame Blair (<i>RHUL</i>)
11:30	Beam loss monitoring at CTF3 <small>(10')</small>	Thibaut Lefevre (<i>CERN</i>)
11:40	Machine Protection system: Lessons learnt from LHC <small>(20')</small>	Eva Barbara Holzer (<i>CERN</i>)

Beam Parameters	Main Beam Requirement	Main Beam Monitor	Drive Beam Requirement	Drive Beam Monitor
Intensity Σ				
Position x, y				
Energy spread $\Delta E/E$				
Bunch length σ_z				
Emittance $\gamma \epsilon$				
Beam size σ				
Beam loss				
Luminosity L				
Phase stability				

ELAN Document

- Please produce a paragraph of introduction to your talk and then we can include it, together with the slides, as an “ELAN document”

Template can be found at:

http://esgard.lal.in2p3.fr/Project/Activities/Current/Networking/N2/ELAN/Documents/care_elan_document.doc

EU contract number RII3-CT-2001-00285 CARE/ELAN Document-207-005



ATF2 variable β_{IP} parameters

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Abstract

Optical configurations with variable β_{IP} parameters can be useful during the commissioning of the ATF2 beam line and for the performance optimisation, to limit the beam sensitivity to displacements and energy errors. Such configurations are calculated, and the resulting tolerances studied.

1 Introduction

The aim of this work is to obtain a set of variable β_{IP} parameters for the ATF2 line commissioning and the performance optimisation. This is achieved by matching some quadrupoles and sextupoles in the beam line. A study of the tolerance of the beam in these configurations is also performed. Increasing the β_{IP} parameters reduces the beam sensitivity to the energy spread and magnet displacements for the commissioning. Decreasing them can also be considered for the final optimisation.

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