

**BIGNet = Beam Instrumentation
Global NETWORK**
A Common Web Portal for Beam
Instrumentalists

IBIC2012 – 02/10/2012
J-J Gras, CERN-BE-BI

Presentation Overview

- This talk will present the status and plan of a project aimed to define and deliver a Common Web Portal for Beam Instrumentation:
- Introduction
- Initial Objectives and Plan
- Current Status of BIGNet
- Key Roles within the Project
- Next Steps
- Conclusions

The **BIGNet**

Beam Instrumentation Global Network

Introduction

- On regular occasions over the past years, user requirements have put increasing demands on the our accelerator complex beam instrumentation.
- These requests are most of the time easy to summarize as “improve the performance” and “quantify precisely the uncertainty” of a given instrument.
- Implementation on the other hand often turns out to be a difficult and challenging task and it was quickly realized during this process that **there was no easy way to share issues, questions and progress with people probably facing similar kinds of problems in other laboratories.**

Initial Objectives and Plans

- We were missing ‘something’ that would allow any beam instrumentalist to:
 - Easily find the laboratories with accelerators producing beams with similar characteristics (particle type, total beam intensity, bunch intensity, energy...)
 - Easily find the experts working at these institutes on the different beam observables (i.e. beam position, loss, intensity, transverse or longitudinal profile, tune...) and how to contact them.
 - Launch (or participate in) discussion forums with the right people
 - Advertise events such as workshops on specific instrumentation technologies and beam instrumentation related conferences.
 - Provide links towards documents describing system designs and performance assessments
 - ...

Initial Objectives and Plans

- We discussed the subject with BI colleagues during last IPAC and the proposed solution was to develop a web site providing all the relevant features.
- Each participating laboratory would nominate a local administrator to maintain the information related to their laboratory (i.e. machine and beam parameters, instrument and expert lists, local events...).
- Once this was in place, any beam instrumentation expert could then use the site content and create or participate to discussions

Initial Objectives and Plans

The plan was to:

- develop and assess a prototype of this web site during 2012 in collaboration with some volunteer local administrators in other laboratories
- propose it to a wider audience during IBIC2012.

That is where we stand today

The Current Status of BIGNet

The screenshot shows the BIGNet website interface. At the top, there is a navigation bar with 'Site Actions', 'Browse', and 'Page' tabs. Below this is a search bar with the text 'Search this site...'. The main content area is titled 'Introduction' and features a large heading 'Welcome to the Beam Instrumentation Global Network'. The text explains the purpose of the site and lists several bullet points for users to find. On the right side, there is a section titled 'Related Events' with two entries: 'IBIC 12: First International Beam Instrumentation Conference' and 'LCWS12: 2012 International Workshop on Future Linear Colliders'. At the bottom right, there is a section titled 'Discussions on Instrumentation' with a table showing the subject and last updated date for various topics.

Site Actions ▾ Browse Page

Home Stats

Search this site...

BIGNet

- Laboratories
- Accelerators Overview
- Beam Instrumentalists
- Instrument Technology
- Documentation
- Related Events

Discussions

- Discussions on BIGNet
- Discussions on Instrumentation

People and Groups

Temporary Links

- Accelerator Types
- Beam Observables
- Particle Types
- Internal Documentation
- Temporary Sites

Introduction

Welcome to the Beam Instrumentation Global Network

The purpose of this site is to provide an easy and efficient way to share design, issues, questions and progress on particle accelerators beam instrumentation between experts from the different laboratories.

This site should allow beam instrumentation experts to:

- find the laboratories with machines producing beam with similar characteristics (particle type, total beam intensity, bunch intensity, frequency, energy...)
- find who is the colleague working there on the beam observable concerned (i.e. beam position, loss, intensity, transverse or longitudinal profile, tune...) and how to contact him
- find documents describing their system designs and performance assessments

You will find below the list of Laboratories participating to this initiative.

You will find on your right a summary of the coming related events and latest ongoing discussions if any.

You will find on your left, under BI Portal chapter, access to:

- the list of Laboratories participating to this web site
- the relevant Beam and Machine Parameters for the different machines (*Machine Overview*)
- a list and some literature for the different monitor technologies used in Beam Instrumentation (under *Instrument Technology*)
- a list of the beam instrumentation experts in the different laboratories with their domains of expertise.
- a library for relevant *Documentation* on these instruments
- You also have access to the *Discussion* pages where you should be able to launch a new one if you fill the need.
- the *Machine Types*, *Beam Observables* and *Particle Types* lists will eventually be hidden. They are used as input for the other lists and exposed here for the purpose of discussion.

Related Events

01/10/2012 12:00 AM **IBIC 12: First International Beam Instrumentation Conference**
The IBIC will be dedicated to exploring the physics and engineering challenges of beam diagnostic and measurement techniques for charged particle accelerators worldwide. The conference program will include tutorials on selected topics and invited...

22/10/2012 12:00 AM **LCWS12: 2012 International Workshop on Future Linear Colliders**
The 2012 International Workshop on Future Linear Colliders (LCWS12) will be hosted by the University of Texas at Arlington. The workshop will be held on Oct. 22 - 26, 2012 on the campus of the University of Texas at Arlington, Texas, USA.
...

Discussions on Instrumentation

Subject	Last Updated
CERN LHC synchrotron radiation extraction mirror issues	24/09/2012 11:11 PM

BIGNet entry page at <https://espace.cern.ch/info-bi-portal/default.aspx> provides a short introduction to the site and its contents with an overview of upcoming events and latest discussion forums, as well as providing access to its different subpages.

The Current Prototype: The Participating Laboratories

Site Actions ▾

Browse

List Tools

Items


List

Jean-Jacques Gras ▾

 World Portal for Beam Instrumentation ▸ Laboratories ▸ All Items ▾

List of Laboratories participating to the portal

Home Stats

Search this site...  

<input type="checkbox"/> Acronym	Name and Web Site	Country	Location	Local Administrator
BNL	Brookhaven National Laboratory	USA	Brookhaven	Michiko Minty
CELLS-ALBA	ALBA Synchrotron Light Facility	Spain	Barcelona	Francis Perez
CERN	European Laboratory for Nuclear Research	Switzerland	Geneva	Jean-Jacques Gras
DESY	Deutsches Elektronen-Synchrotron	Germany	Hamburg	Kay Wittenburg
DIAMOND	Diamond Light Source - UK's National Synchrotron	UK	Oxfordshire	Guenther Rehm
ESS	European Spallation Source	Sweden	Lund	Andreas Jansson
FNAL	Fermi National Accelerator Laboratory	USA	Chicago	
GSI	GSI Helmholtzzentrum für Schwerionenforschung	Germany	Darmstadt	Marcus Schwickert
KEK	High Energy Accelerator Research Organization	Japan	Tsukuba	
ORNL	Oak Ridge National Laboratory	USA	Oak Ridge	Alexander Aleksandrov
PSI	Paul Scherrer Institute	Switzerland	Villigen	Volker Schlott
RIKEN	RIKEN	Japan	Wako	
SOLEIL	SOLEIL Synchrotron	France	Saclay	

 Add new item

BI Portal

Laboratories

Machine Overview

Beam Instrumentation

Instrument Technology

Documentation

Related Events

Discussions

Discussions

People and Groups

Temporary Links


Machine Types

Beam Observables

Particle Types

Internal Documentation

The Current Prototype: The Accelerators Overview

Site Actions ▾


List Tools

Browse



Items

List

Sign In

 BIGNet ▸ Accelerators Overview ▸ AsTable ▾
Beam and machine parameters of each laboratory accelerators

Home Stats

Search this site...  

BIGNet

Laboratories

Accelerators Overview

Beam Instrumentalists

Instrument Technology

Documentation

Related Events

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Discussions on Instrumentation

People and Groups

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Accelerator Types

Beam Observables

Particle Types

Internal Documentation

Temporary Sites

 All Site Content

CERN_LEIR

CERN_LHC

CERN_PS

CERN_PSB

CERN_SPS

DLS_BR

DLS_LINAC

DLS_SR

ESS_LINAC

GSI_Unilac

SNS_LINAC

Acronym	CERN_LHC
DataState	OnReview
Accelerator Type	Storage Ring
Length-m	27,000
Particle	p; Pb82
Energy-GeV/u	450 - 3500
Gamma	
BeamIn-s	1e-4 - 1e5
FRev-kHz	11
AvailableRF-MHz	400
BunchSpacing-ns	25, 50, 75, 150 ...
BunchNb	1 - 2808
BeamNbChg-10e10	0.2 - 50000
BunchNbChg-10e10	0.2 - 30
Emittance-mm.mrad	1-6
BeamTransvSize-um	
BeamLongSize-ns	0.8 - 1.6
VacPipeRadius-mm	
Acronym	CERN_LHC

The Current Prototype: The Beam Instrumentalists

Site Actions

Jean-Jacques Gras ▾

BIGNet ▸ Site Settings ▸ People and Groups - World Portal for Beam Instrumentation Members

Use this group to give people contribute permissions to the SharePoint site: [World Portal for Beam Instrumentation](#)

Home Stats

Search this site...

Groups

World Portal for Beam Instrumentation Members

World Portal for Beam Instrumentation Owners

World Portal for Beam Instrumentation Visitors

More...

BIGNet

Laboratories

Accelerators Overview

Beam Instrumentalists

Instrument Technology

Documentation

Related Events


New ▾ | Actions ▾ | Settings ▾


View:

List View ▾



	Name	Competencies	Observables	Technology	Laboratory	Accelerators	Work e-mail
<input type="checkbox"/>	Christian Boccard	Analog Electronics; Mechanics; Monitor Design	Position; Tune	Pick-Up (capacitive, inductive); Schottky Monitor	CERN	CERN_LHC; CERN_SPS	Christian.Boccard@cern.ch
<input type="checkbox"/>	Eva Calvo Giraldo	Analog Electronics	Position	Pick-Up (capacitive, inductive)	CERN	CERN_LHC	Eva.Calvo.Giraldo@cern.ch
<input type="checkbox"/>	Jean Jacques Savioz	Digital Electronics	Position	Current Transformer for Pulsed Beam; Pick-Up (capacitive, inductive)	CERN	CERN_LHC; CERN_SPS	Jean.Jacques.Savioz@cern.ch
<input type="checkbox"/>	Jeroen Belleman	Analog Electronics; Digital Electronics; Monitor Design	Position; Longitudinal Distribution	Pick-Up (capacitive, inductive); Wall Current Monitor	CERN	CERN_PS; CERN_PSB	Jeroen.Belleman@cern.ch

The Current Prototype: The Beam Instrumentalists

Site Actions  Jean-Jacques Gras ▾



 **BIGNet** ▸ Site Settings ▸ People and Groups - World Portal for Beam Instrumentation Members

Use this group to give people contribute permissions to the SharePoint site: [World Portal for Beam Instrumentation](#)

Home Stats  

Groups


New ▾ | Actions ▾ | Settings ▾ View: **List View** ▾


	Name	Competencies	Observables 	Technology	Laboratory	Accelerators	Work e-mail
<input type="checkbox"/>	Christian Boccard	Analog Electronics; Mechanics; Monitor Design	Position; Tune	Pick-Up (capacitive, inductive); Schottky Monitor	CERN	CERN_LHC; CERN_SPS	Christian.Boccard@cern.ch
<input type="checkbox"/>	Eva Calvo Giraldo	Analog Electronics	Position	Pick-Up (capacitive, inductive)	CERN	CERN_LHC	Eva.Calvo.Giraldo@cern.ch
<input type="checkbox"/>	Jean Jacques Savioz	Digital Electronics	Position	Current Transformer for Pulsed Beam; Pick-Up (capacitive, inductive)	CERN	CERN_LHC; CERN_SPS	Jean.Jacques.Savioz@cern.ch
<input type="checkbox"/>	Jeroen Belleman	Analog Electronics; Digital Electronics; Monitor Design	Position; Longitudinal Distribution	Pick-Up (capacitive, inductive); Wall Current Monitor	CERN	CERN_PS; CERN_PSB	Jeroen.Belleman@cern.ch

BIGNet



- Laboratories
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- Beam Instrumentalists
- Instrument Technology
- Documentation
- Related Events

The Current Prototype: The Beam Instrumentalists

Site Actions  Jean-Jacques Gras ▾



 **BIGNet** ▸ Site Settings ▸ People and Groups - World Portal for Beam Instrumentation Members

Use this group to give people contribute permissions to the SharePoint site: [World Portal for Beam Instrumentation](#)

Home Stats  

Groups


New ▾ | Actions ▾ | Settings ▾ View: **List View** ▾


	Name	Competencies	Observables 	Technology	Laboratory	Accelerators	Work e-mail
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<input type="checkbox"/>	Eva Calvo Giraldo	Analog Electronics	Position	Pick-Up (capacitive, inductive)	CERN	CERN_LHC	Eva.Calvo.Giraldo@cern.ch
<input type="checkbox"/>	Jean Jacques Savioz	Digital Electronics	Position	Current Transformer for Pulsed Beam; Pick-Up (capacitive, inductive)	CERN	CERN_LHC; CERN_SPS	Jean.Jacques.Savioz@cern.ch
<input type="checkbox"/>	Jeroen Belleman	Analog Electronics; Digital Electronics; Monitor Design	Position; Longitudinal Distribution	Pick-Up (capacitive, inductive); Wall Current Monitor	CERN	CERN_PS; CERN_PSB	Jeroen.Belleman@cern.ch

BIGNet



- Laboratories
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The Current Prototype: The Beam Instrumentalists

Site Actions  Jean-Jacques Gras ▾



 **BIGNet** ▸ Site Settings ▸ People and Groups - World Portal for Beam Instrumentation Members

Use this group to give people contribute permissions to the SharePoint site: [World Portal for Beam Instrumentation](#)

Home Stats  

Groups

New ▾ | Actions ▾ | Settings ▾ View: List View ▾

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<input type="checkbox"/>	Eva Calvo Giraldo	Analog Electronics	Position	Pick-Up (capacitive, inductive)	CERN	CERN_LHC	Eva.Calvo.Giraldo@cern.ch
<input type="checkbox"/>	Jean Jacques Savioz	Digital Electronics	Position	Current Transformer for Pulsed Beam; Pick-Up (capacitive, inductive)	CERN	CERN_LHC; CERN_SPS	Jean.Jacques.Savioz@cern.ch
<input type="checkbox"/>	Jeroen Belleman	Analog Electronics; Digital Electronics; Monitor Design	Position; Longitudinal Distribution	Pick-Up (capacitive, inductive); Wall Current Monitor	CERN	CERN_PS; CERN_PSB	Jeroen.Belleman@cern.ch

BIGNet

- Laboratories
- Accelerators Overview
- Beam Instrumentalists
- Instrument Technology
- Documentation
- Related Events

**Email addresses are only accessible to people identified as member of the Network .
Same for access to forum discussions**

The Current Prototype: Related Event Calendar

Site Actions Browse Jean-Jacques Gras ▾

World Portal for Beam Instrumentation ▸ Related Events
This Calendar will advertise Beam Instrumentation relative Events

Home Stats Search this site...

◀ 2011 ▶
Jan Feb Mar
Apr May Jun
Jul Aug Sep
Oct **Nov** Dec

Today is 09 November 2011

BI Portal
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Internal Documentation
Temporary Sites

◀ ▶ November 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3

10/11/2011 12:00 AM **Beam Monitoring: Developments and Applications**
An initiative to bring together the brightest minds in the field from both academia and industry. This workshop serves as a platform to present and discuss current developments and standing issues, to find synergies and common grounds.

Add new event

Major conferences such as IBIC are well publicised throughout the community but **smaller workshops with more focussed scopes often go unnoticed**. This part of the web site will allow the organizers to **advertise such events and reach a wider audience**.

The Current Prototype: Related Event Calendar

The screenshot shows a web interface for the 'World Portal for Beam Instrumentation'. At the top, there's a navigation bar with 'Site Actions' and 'Browse' buttons, and the user 'Jean-Jacques Gras'. Below this, the page title is 'World Portal for Beam Instrumentation > Related Events', with a subtitle 'This Calendar will advertise Beam Instrumentation relative Events'. A search bar is on the right. The main content is a calendar for November 2011. The 9th of November is highlighted in orange, and a red arrow points to it from the event title 'Beam Monitoring: Developments and Applications (GSI, Darmstadt)'. The event description reads: 'An initiative to bring together the brightest minds in the field from both academia and industry. This workshop serves as a platform to present and discuss current developments and standing issues, to find synergies and common grounds.' A sidebar on the left contains a list of links: 'BI Portal', 'Laboratories', 'Machine Overview', 'Beam Instrumentation', 'Instrument Technology', 'Documentation', 'Related Events' (highlighted), 'Discussions', 'People and Groups', 'Temporary Links', 'Machine Types', 'Beam Observables', 'Particle Types', 'Internal Documentation', and 'Temporary Sites'. At the bottom of the calendar view, there's a link to 'Add new event'.

Major conferences such as IBIC are well publicised throughout the community but **smaller workshops with more focussed scopes often go unnoticed**. This part of the web site will allow the organizers to **advertise such events and reach a wider audience**.

The Current Prototype: Related Event Calendar

The screenshot displays a web interface for a 'World Portal for' with a calendar and an event details modal.

Calendar: A monthly view for November 2011. The event 'Beam Monitoring: Developments and Applications (GSI, Darmstadt)' is scheduled for November 10th and 11th. A red arrow points to the event on the 10th.

Event Details Modal: The modal is titled 'Related Events - Beam Monitoring: Developments and Applications...'. It contains the following information:


- Title:** Beam Monitoring: Developments and Applications
- Location:** GSI, Darmstadt
- Start Time:** 10/11/2011 12:00 AM
- End Time:** 11/11/2011 11:59 PM
- Description:** An initiative to bring together the brightest minds in the field from both academia and industry. This workshop serves as a platform to present and discuss current developments and standing issues, to find synergies and common grounds.
- Category:** Workshop
- All Day Event:** Yes
- Recurrence:**
- Workspace:**
- Observable:** Chromaticity; Coupling; Intensity; Longitudinal Distribution; Losses; Position; Time of Flight; Transverse Distribution; Tune
- Instrument Technology:** Beam Induced Fluorescence Monitor; Current Transformer for Pulsed Beam; DC Current Transformer; Faraday Cup; Ionization Chamber; Multi Wire Proportional Chamber; Pick-Up (capacitive, inductive); PIN Diode; Residual Gas Profile Monitor (Ionisation); Schottky Monitor; Scintillation Counter; Screen (OTR, Scintillation); Secondary Emission Monitor; Slit-Grid; Sync. Radiation Telescopes; Wall Current Monitor; Wire Scanner
- Details:** [info link](#)

The modal also includes a 'Close' button and a footer with the following text:

Content Type: Event
Created at 26/09/2011 04:26 PM by Jean-Jacques Gras
Last modified at 26/09/2011 04:27 PM by Jean-Jacques Gras



Major conferences such as IBIC are well publicised throughout the community but **smaller workshops with more focussed scopes often go unnoticed**. This part of the web site will allow the organizers to **advertise such events and reach a wider audience**.


The Current Prototype: The Relevant Documentation


World Portal for Beam Instrumentation

Documentation
All Items

Home
Stats

<div> <div>BI Portal</div> <div>Laboratories</div> <div>Machine Overview</div> <div>Beam Instrumentation</div> <div>Instrument Technology</div> <div>Documentation</div> <div>Related Events</div> <div>Discussions</div> <div>Discussions</div> <div>People and Groups</div> <div>Temporary Links</div> </div>	<div> <input type="checkbox"/> Title Machine Observable Instrument Type Instrument Document Type Link Context </div> <div> <div> First Operation of the Abort Gap Monitors for LHC CERN_LHC Intensity; Longitudinal Distribution Sync. Radiation Telescopes CERN_LHC Abort Gap Monitor Technical Specs, Performance Assessment http://cdsweb.cern.ch/record/1272172/files/CERN-BE-2010-026.pdf IPAC2010 </div> <div> Measurement of the Beam Position in the LHC Main Rings CERN_LHC Position Pick-Up (capacitive, inductive) CERN_LHC Beam Position Monitors Functional Specs https://edms.cern.ch/file/327557/2/lhc-bpm-es-0004v2.PDF Internal </div> <div> Measurement of the Beam Transverse Distribution in the LHC Rings CERN_LHC Transverse Distribution Screen (OTR, Scintillation); Sync. Radiation Telescopes; Wire Scanner Functional Specs https://edms.cern.ch/file/328147/1.0/LHC-B-ES-0006-10-00.pdf Internal </div> <div> The LHC Fast BCT System: A comparison of Design Parameters with Initial Performance CERN_LHC Intensity Current Transformer for Pulsed Beam CERN_SPS Ring and Transfer Line Fast Current Transformers Performance Assessment http://cdsweb.cern.ch/record/1267400/files/CERN-BE-2010-010.pdf BIW2010 </div> <div>  Add new item </div> </div>
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Papers and notes describing system designs and performance assessments are scattered in many different places and it is often difficult to find them unless they are known to exist, or there is some knowledge of the storage location, author or part of the title. The purpose of this library is not to store the document or a copy of it but just refer to them with some attached attributes that will ease their access by relevant filtering.

The Current Prototype: The Relevant Documentation

World Portal for Beam Instrumentation > Documentation > All Items ▾								
Home Stats		Search this site... 🔍 ?						
BI Portal	<input type="checkbox"/> Title	Machine	Observable	Instrument Type	Instrument	Document Type	Link	Context
Laboratories	First Operation of the Abort Gap Monitors for LHC	CERN_LHC	Intensity; Longitudinal Distribution	Sync. Radiation Telescopes	CERN_LHC Abort Gap Monitor	Technical Specs, Performance Assessment	http://cdsweb.cern.ch/record/1272172/files/CERN-BE-2010-026.pdf	IPAC2010
Machine Overview	Measurement of the Beam Position in the LHC Main Rings	CERN_LHC	Position	Pick-Up (capacitive, inductive)	CERN_LHC Beam Position Monitors	Functional Specs	https://edms.cern.ch/file/327557/2/lhc-bpm-es-0004v2.PDF	Internal
Beam Instrumentation	Measurement of the Beam Transverse Distribution in the LHC Rings	CERN_LHC	Transverse Distribution	Screen (OTR, Scintillation); Sync. Radiation Telescopes; Wire Scanner		Functional Specs	https://edms.cern.ch/file/328147/1.0/LHC-B-ES-0006-10-00.pdf	Internal
Instrument Technology	The LHC Fast BCT System: A comparison of Design Parameters with Initial Performance	CERN_LHC	Intensity	Current Transformer for Pulsed Beam	CERN_SPS Ring and Transfer Line Fast Current Transformers	Performance Assessment	http://cdsweb.cern.ch/record/1267400/files/CERN-BE-2010-010.pdf	BIW2010
Documentation	➕ Add new item							
Related Events								
Discussions								
Discussions								
People and Groups								
Temporary Links								

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The Current Prototype: The Relevant Documentation

World P

Home Stats

BI Portal

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Instrument Techn

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Discussions

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Temporary Link

CERN
CH-1211 Geneva 23
Switzerland

the Large Hadron Collider project

LHC Project Document No.
LHC-B-ES-0006 rev 1.0

CERN Div./Group or Supplier/Contractor Document No.
AB/BDI

EDMS Document No.
328147

Date: 2003-07-09

Functional Specification

MEASUREMENT OF THE TRANSVERSE BEAM DISTRIBUTION IN THE LHC RINGS

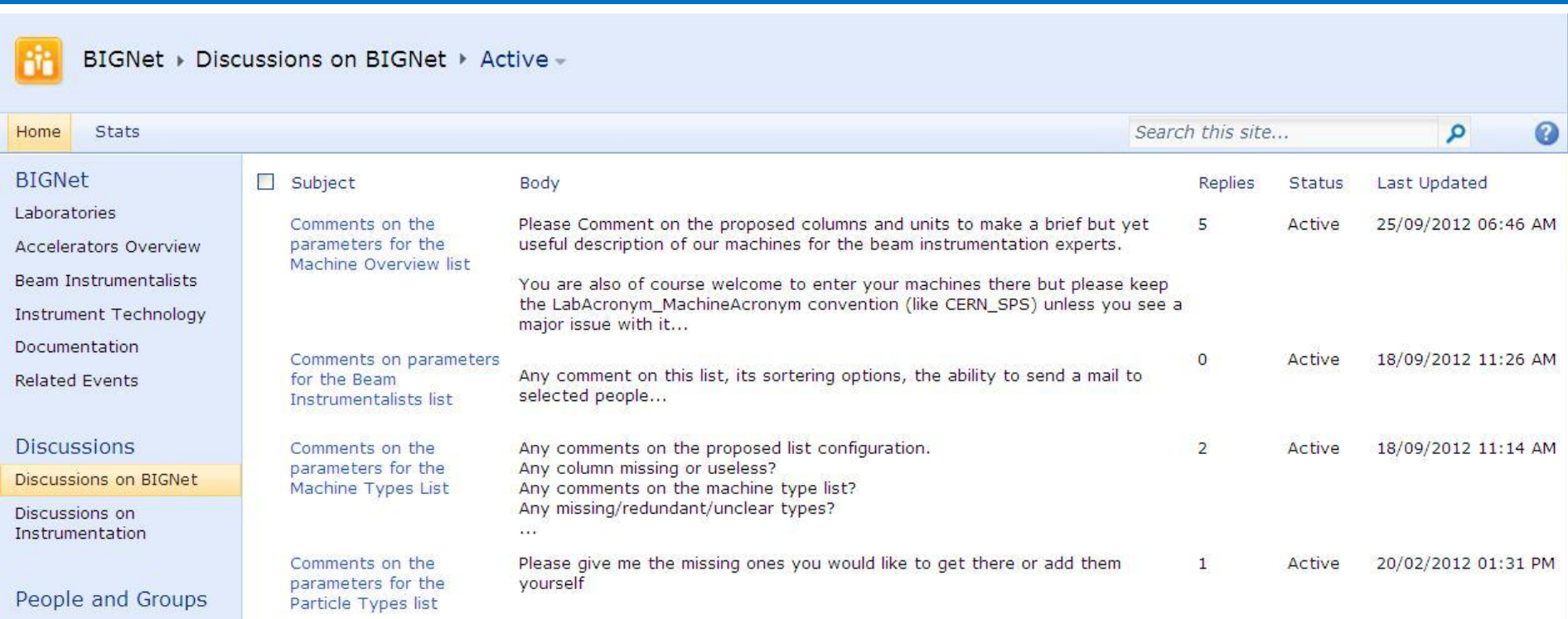
Abstract
This document discusses the anticipated uses of the 1D transverse beam profiles and



Search this site...

Document Type	Link	Context
Technical Specs, Performance Assessment	http://cdsweb.cern.ch/record/1272172/files/CERN-BE-2010-026.pdf	IPAC2010
Functional Specs	https://edms.cern.ch/file/327557/2/lhc-bpm-es-0004v2.PDF	Internal
Functional Specs	https://edms.cern.ch/file/328147/1.0/LHC-B-ES-0006-10-00.pdf	Internal
Performance Assessment	http://cdsweb.cern.ch/record/1267400/files/CERN-BE-2010-010.pdf	BIW2010

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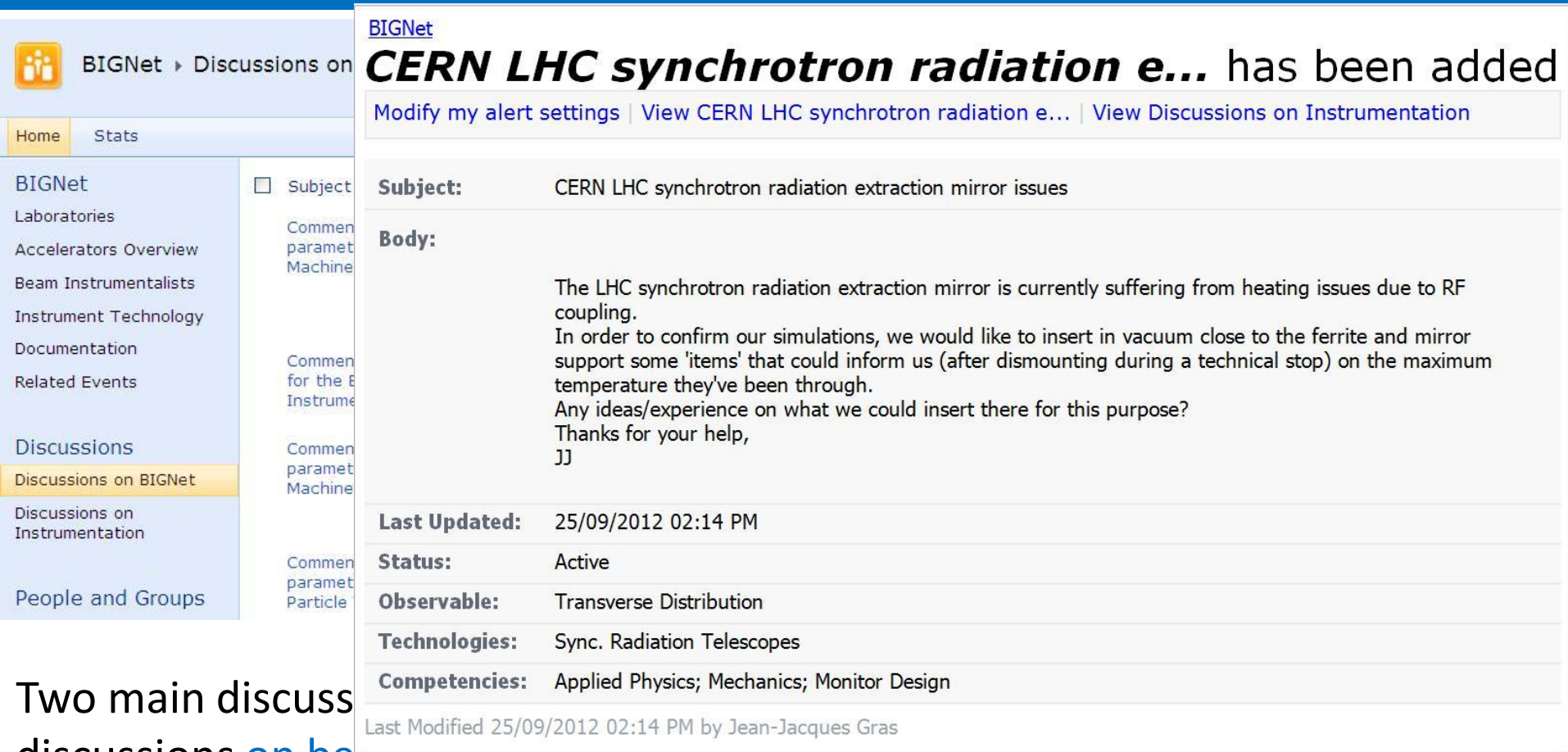
The Current Prototype: The Discussion Forums



BIGNet ▸ Discussions on BIGNet ▸ Active ▾					
Home	Stats	Search this site...  			
<input type="checkbox"/> Subject	Body	Replies	Status	Last Updated	
Comments on the parameters for the Machine Overview list	Please Comment on the proposed columns and units to make a brief but yet useful description of our machines for the beam instrumentation experts. You are also of course welcome to enter your machines there but please keep the LabAcronym_MachineAcronym convention (like CERN_SPS) unless you see a major issue with it...	5	Active	25/09/2012 06:46 AM	
Comments on parameters for the Beam Instrumentalists list	Any comment on this list, its sorting options, the ability to send a mail to selected people...	0	Active	18/09/2012 11:26 AM	
Comments on the parameters for the Machine Types List	Any comments on the proposed list configuration. Any column missing or useless? Any comments on the machine type list? Any missing/redundant/unclear types? ...	2	Active	18/09/2012 11:14 AM	
Comments on the parameters for the Particle Types list	Please give me the missing ones you would like to get there or add them yourself	1	Active	20/02/2012 01:31 PM	

Two main discussion forums are currently in place. The first one is dedicated to discussions **on beam instrumentation**, the second will be dedicated to discussions **on the BIGNet itself**. **Every member of the network can participate and will receive a daily email gathering all the last day activity in these forums.** A quick look at the headers will allow users to see if some topics could be of interest to them and links to participate will also be given in the email.

The Current Prototype: The Discussion Forums



The screenshot displays the BIGNet Discussion Forums interface. On the left is a navigation sidebar with links to Home, Stats, and various categories like Laboratories, Accelerators Overview, and Discussions. The main content area shows a discussion thread titled "CERN LHC synchrotron radiation e..." with a subject line "CERN LHC synchrotron radiation extraction mirror issues". The body of the thread contains a message from JJ asking for input on mirror heating issues. Metadata at the bottom of the thread includes the last update time (25/09/2012 02:14 PM), status (Active), observable (Transverse Distribution), technologies (Sync. Radiation Telescopes), and competencies (Applied Physics; Mechanics; Monitor Design).

BIGNet Discussions on **CERN LHC synchrotron radiation e...** has been added

[Modify my alert settings](#) | [View CERN LHC synchrotron radiation e...](#) | [View Discussions on Instrumentation](#)

Subject: CERN LHC synchrotron radiation extraction mirror issues

Body:

The LHC synchrotron radiation extraction mirror is currently suffering from heating issues due to RF coupling.
In order to confirm our simulations, we would like to insert in vacuum close to the ferrite and mirror support some 'items' that could inform us (after dismounting during a technical stop) on the maximum temperature they've been through.
Any ideas/experience on what we could insert there for this purpose?
Thanks for your help,
JJ

Last Updated: 25/09/2012 02:14 PM

Status: Active

Observable: Transverse Distribution

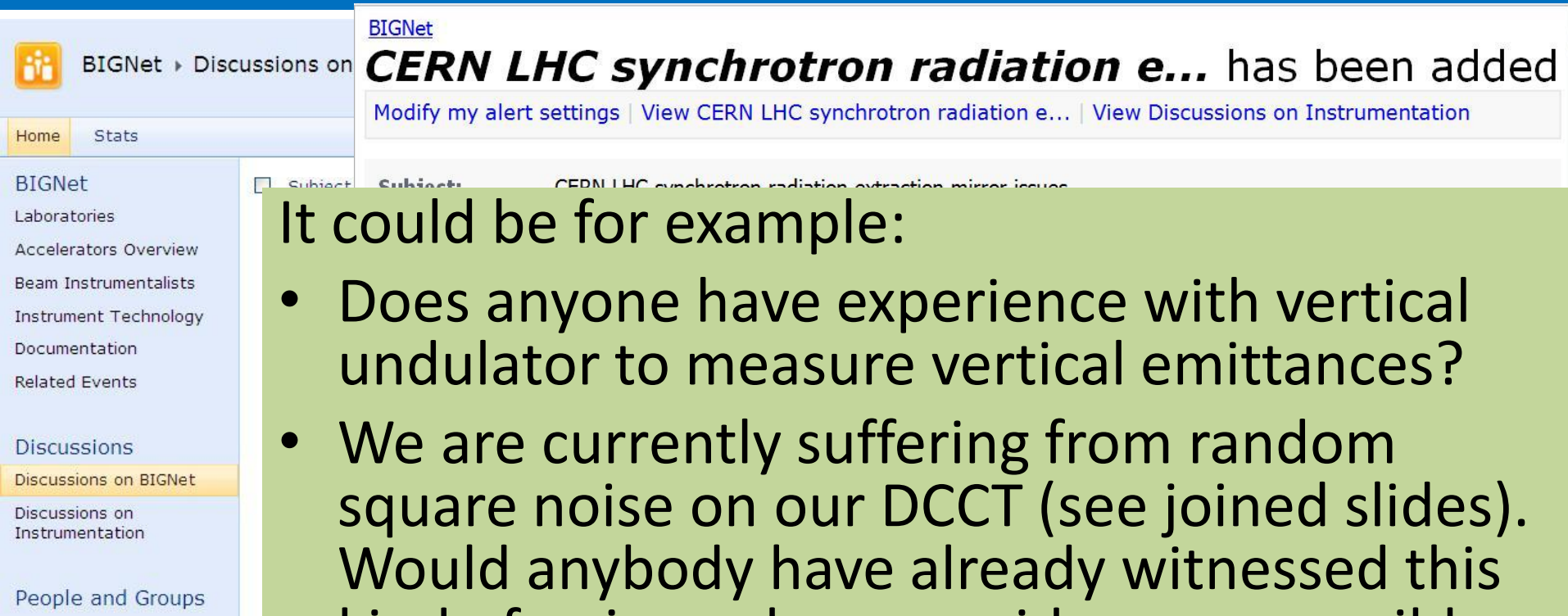
Technologies: Sync. Radiation Telescopes

Competencies: Applied Physics; Mechanics; Monitor Design

Last Modified 25/09/2012 02:14 PM by Jean-Jacques Gras

Two main discussion forums will be created: one on beam instrumentation, the second will be dedicated to discussions on the BIGNet itself. Every member of the network can participate and will receive a **daily** email gathering all the last day activity in these forums. A quick look at the headers will allow users to see if some topics could be of interest to them and links to participate will also be given in the email.

The Current Prototype: The Discussion Forums



The screenshot displays the BIGNet Discussions interface. The top navigation bar includes 'BIGNet' and 'Discussions on'. Below this, there are links for 'Home' and 'Stats'. The left sidebar contains a list of categories: 'BIGNet', 'Laboratories', 'Accelerators Overview', 'Beam Instrumentalists', 'Instrument Technology', 'Documentation', 'Related Events', 'Discussions', 'Discussions on BIGNet' (highlighted), 'Discussions on Instrumentation', and 'People and Groups'. The main content area shows a forum post titled 'CERN LHC synchrotron radiation extraction mirror issues'. The post header includes 'Subject: CERN LHC synchrotron radiation extraction mirror issues' and a link to 'View Discussions on Instrumentation'. The post body contains the text: 'It could be for example:'. Below this, there is a list of bullet points: 'Does anyone have experience with vertical undulator to measure vertical emittances?', 'We are currently suffering from random square noise on our DCCT (see joined slides). Would anybody have already witnessed this kind of noise or have any idea on a possible source?', and '...'. The text 'Two main discussions on the BIGNet itself. Every member of the network can participate and will receive a daily email gathering all the last day activity in these forums. A quick look at the headers will allow users to see if some topics could be of interest to them and links to participate will also be given in the email.' is overlaid on the bottom of the screenshot.

BIGNet

BIGNet Discussions on

Home Stats

BIGNet

Laboratories

Accelerators Overview

Beam Instrumentalists

Instrument Technology

Documentation

Related Events

Discussions

Discussions on BIGNet

Discussions on Instrumentation

People and Groups

Subject: CERN LHC synchrotron radiation extraction mirror issues

CERN LHC synchrotron radiation e... has been added

[Modify my alert settings](#) | [View CERN LHC synchrotron radiation e...](#) | [View Discussions on Instrumentation](#)

It could be for example:

- Does anyone have experience with vertical undulator to measure vertical emittances?
- We are currently suffering from random square noise on our DCCT (see joined slides). Would anybody have already witnessed this kind of noise or have any idea on a possible source?
- ...

Two main discussions on the BIGNet itself. Every member of the network can participate and will receive a **daily** email gathering all the last day activity in these forums. A quick look at the headers will allow users to see if some topics could be of interest to them and links to participate will also be given in the email.

Key Roles within the Project

- **General Public**, i.e. users who cannot (or did not) sign in
 - Can consult the list of the participating laboratories, the accelerators views and the event pages
 - Will not have access to the details on beam instrumentalists or the discussion pages.
- **Network Members:**
 - Will appear in the Beam Instrumentalists page
 - Will have access (once signed in) to all the information on the site.
 - Will have the right to launch a discussion or participate to an existing one.

The site will be configured in such a way that they **will receive up to 2 emails per day** gathering the activity on the site, one **for new events added** in the calendar and **one for new items in the discussion forum** on beam instrumentation.

Key Roles within the Project

- **Network Local Administrators**

They take the responsibility of entering and keeping up-to-date the data related to their home institute (see next slide)

- **Steering Board Members**

The most motivated local administrators are welcome to join the BIGNet steering board that will be in charge of discussing this feedback and deciding on what should be implemented, when and how.

- **Web Site Administrators**

They will be in charge of implementing agreed modifications at least for the current version. It is worth noticing that any local administrator could become a site administrator with a fairly basic training on SharePoint

Key Roles within the Project

BIGNet local administrators are the most important piece of the puzzle. They take the responsibility of entering and keeping up-to-date the data related to their home institute. In particular, they are responsible for:

1. **Adding the accelerators hosted in their laboratory** to the Accelerators Overview page.
2. **Registering their beam instrumentalists** onto the site and training them on how to use it.
3. **Adding the beam instrumentation related events** that may be organized by their laboratory.
4. **Promoting the network inside their team.**
5. **Contribute actively to the upgrade** of the tool with feedback on the functionality...

Key Roles within the Project

This might look heavy at first glance but it is certainly not so bad and probably worth the effort

Gathering and entering the initial set of data could be a non negligible (but always useful) effort

But maintenance effort afterwards should be pretty limited. Even a simple yearly (synchronized around IBIC for instance) update could probably be enough.

Key Roles within the Project

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But maintenance effort afterwards should be pretty limited. Even a simple yearly (synchronized around IBIC for instance) update could probably be enough.

Overall, it looks to be a good investment for any laboratory with respect to the potential return from the wider community

The Next Steps

- Now that this tool is in our hands, the next steps will be to:
 - invite other laboratories to join the adventure and motivate future local administrators. IBIC2012 being the ideal opportunity for that.
 - populate the Accelerators Overview and Beam Instrumentalist lists.
 - launch a few discussion forums and advertise upcoming events
 - put the Steering Board in place and react to experience and feedback and see how it flies.

Conclusions

- The current implementation of the **BIGNet prototype** proposes most of the features that were targeted at the start of the project.
- Even if this tool may not be perfect in terms of look and feel, it is **ready to start working efficiently and demonstrate the usefulness of this initiative**.
- It is now up to the community as a whole to make it grow
- Please join the adventure and click the 'How to join the BIGNet' button on <https://espace.cern.ch/info-bi-portal/default.aspx>.

Acknowledgments

I would like to acknowledge:

- all the people who contributed to the lively discussions to define this project and in particular the early volunteer local administrators: A. Alexander (ORNL), J-C. Denard (SOLEIL), A. Jansson (ESS), M. Minty (BNL), T. Mitsuhashi (KEK), F. Perez (CELLS-ALBA), G. Rehm (DIAMOND), M. Schwickert (GSI), H. Tanaka (Spring8), C. Welsch (Uni. of Liverpool) and K. Wittenburg (DESY).
- And T. Mitsuhashi (KEK) and Y.B. Leng (SINAP) for organizing and chairing **a dedicated satellite meeting this evening at 18h00 in room 403.**

Questions ?
Comments ?
Volunteers ?

Current Status of BIGNet

The current implementation of the BIGNet web site (see <https://espace.cern.ch/info-bi-portal/default.aspx>) is based on the SharePoint infrastructure available at CERN. This option was taken for the following reasons:

- The SharePoint infrastructure is **extremely flexible and embeds all the functionalities** to handle discussions, alerts, access rights etc.
- It allows the export of data into standard formats such as Excel tables, which **would make migration to another platform possible if eventually required**.
- It is widely used at CERN so **an efficient support from the CERN-IT department** can be relied upon.

Current Status of BIGNet

- This choice allowed the rapid development of a prototype web site.
- Despite the good flexibility and functionality of this architecture, the look and feel can in some cases remain clumsy.
- If this is felt to be too penalizing for the final implementation other options could be considered,
- but as it is this web site already allows assessment of the usefulness of such a tool and permits the type of services and interfaces it should provide to be defined.

Examples of Discussion Topics

- The LHC synchrotron radiation extraction mirror is currently suffering from heating issues due to RF coupling. In order to confirm our simulations, we would like to insert in vacuum close to the ferrite and mirror support some 'items' that could inform us (after dismounting during a technical stop) on the maximum temperature they've been through. Any ideas/experience on what we could insert there for this purpose?
- Do anyone have experience with vertical undulator to measure vertical emittances?
- We are currently developing a small faraday cup for HIE-ISOLDE (see joined sketch) and we would like to assess its performance. Do anyone have a facility with well known beam intensity of the order of μA where we could install such a device for a test?
- We are currently suffering from random square noise on our DCCT (see joined slides). Would anybody have already witnessed these kind of noise or have any idea on a possible source?