

Nos creare scientia hodie ad cras

PIF - Proton Irradiation Facility Summary 2012

Wojtek Hajdas / PIF-LTP-NUM

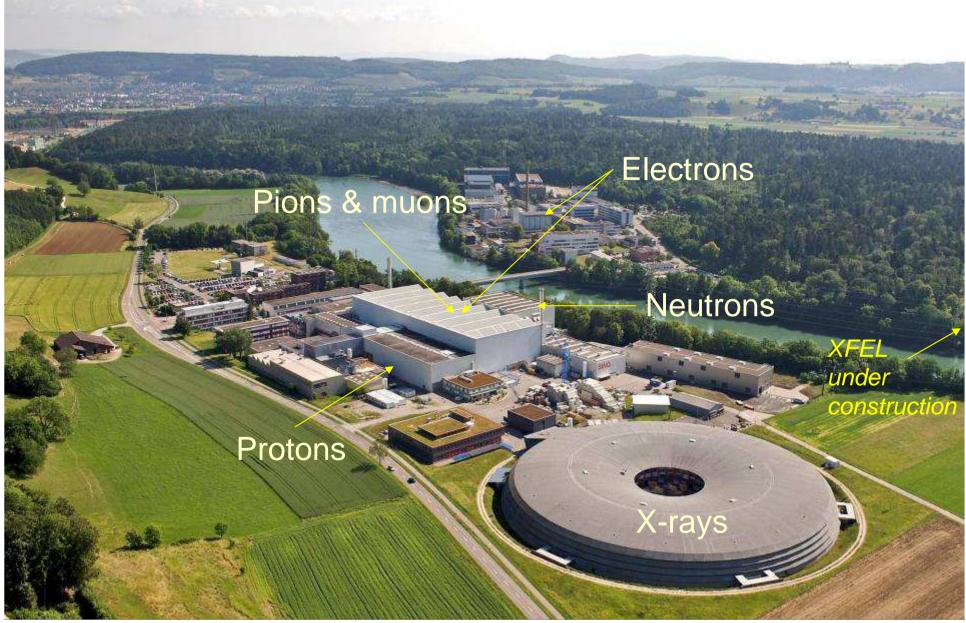
5-6 June 2013

ESA-CNES FPD



Beams from PSI Large Research Facilities





5-6 June 2013 / ESA-CNES FPD

PIF-SR-2012 2





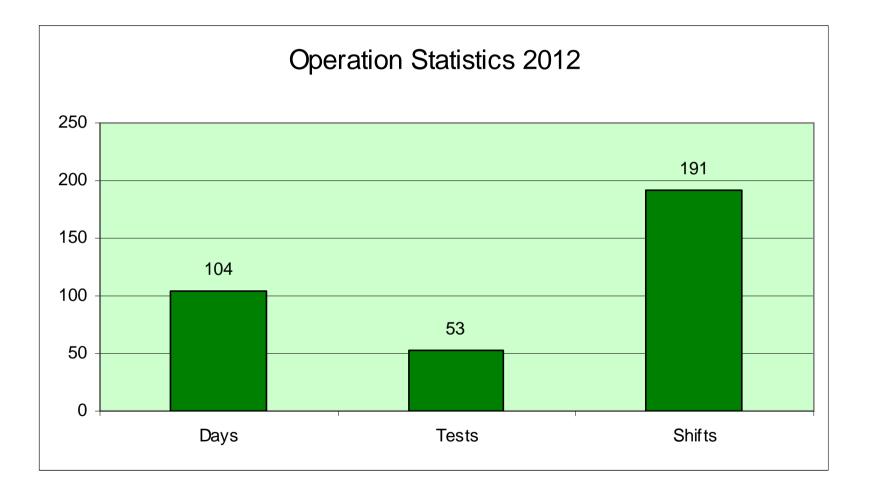
- Beam hours (flat)
- Days with beam
- Shifts
- Experiments
- Institutions
- Users
- ESA shifts/hours
- ESA protons s/h
- ESA electrons s/h

- 1528
- 104
- 191
- 53 (protons)
- 28
- 145
- 67 / 536
- 44 / 352
- 23 / 184



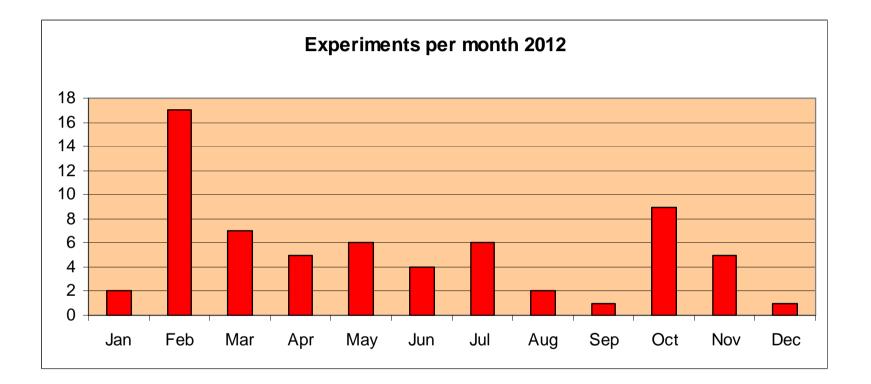
Beam utilization







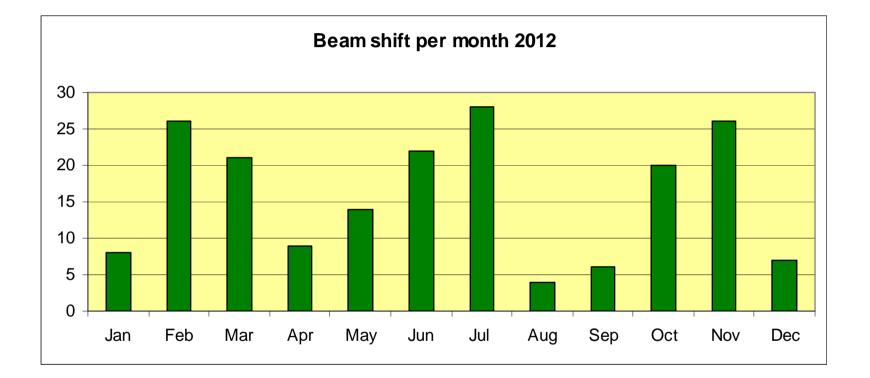




Remark: Group is treated as experiment; In case of e.g. CERN number of experiments is larger









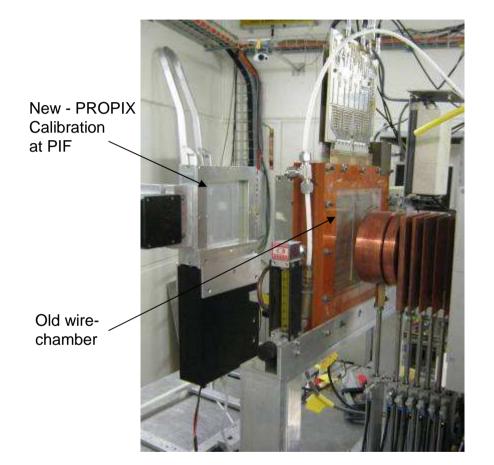


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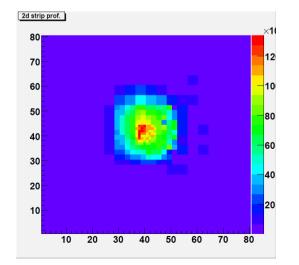
Portable Beam Profile Monitor





Portable Beam Profile Monitor PROPIX for ESA Facilities and PSI Beam-lines

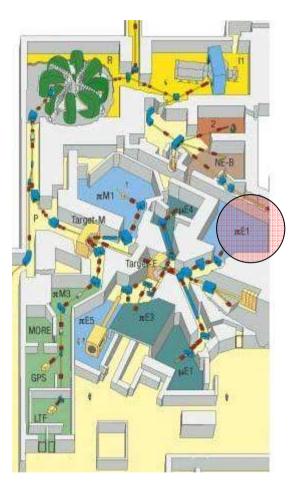
- Pixelized ionization chamber
- Wide range of energies
- Sensitive for low and high intensities
- Fast on-line beam profile monitoring
- Tested with protons and muons
- Verification in Sevilla with p, d
- New units almost completed





Tests with high energy electrons





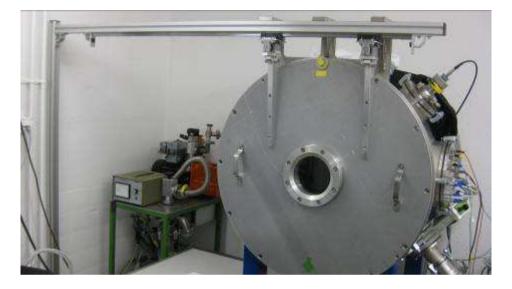
- Search for high energy e-beams
- PSI secondary beam-line π E1
- Energy selection: 6 MeV/c up tested
- Further tests planned

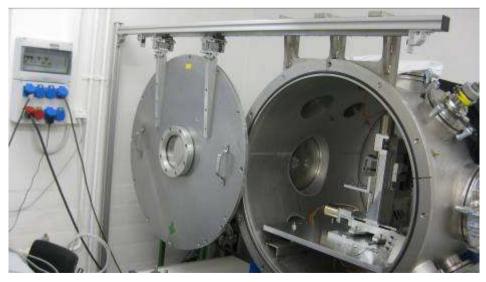




Tests with low energy electrons





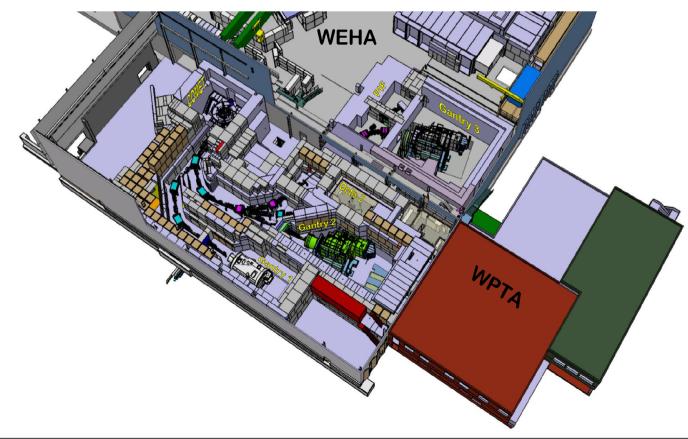


- Large vacuum chamber
- Monochromating magnet
- Electron source ⁹⁰Sr (37 MBq)
- XY-table
- Extra equipment:
- illumination
- temperature sensors
- patch panels
- beam dosimetry





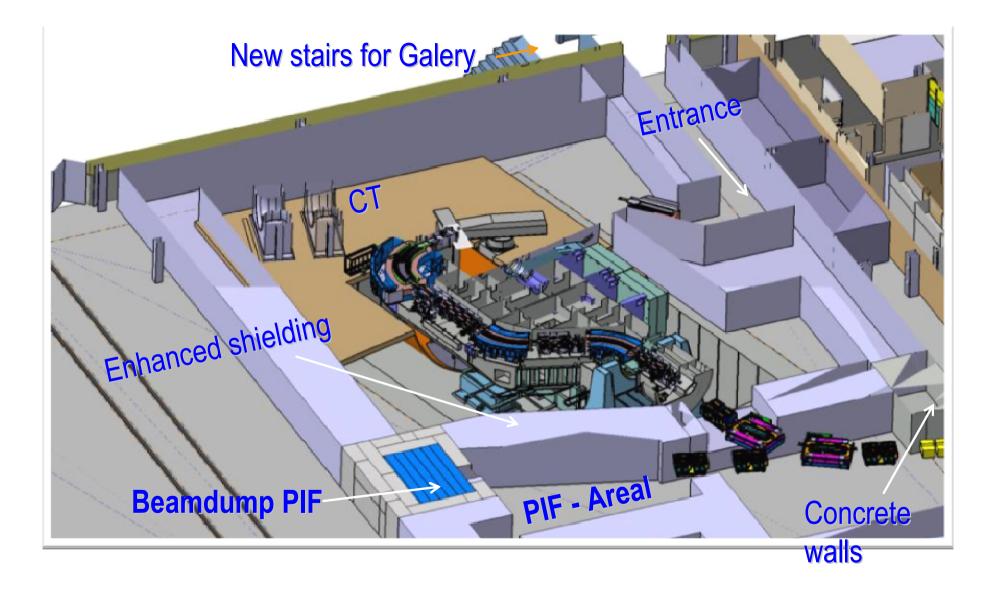
- New, third Gantry (Gantry 3) is to be constructed at PSI
- The concept requires guiding beam through current PIF area
- Planning made to have two short break periods of PIF
- Employment of muon areas in EH for low energy test-campaigns















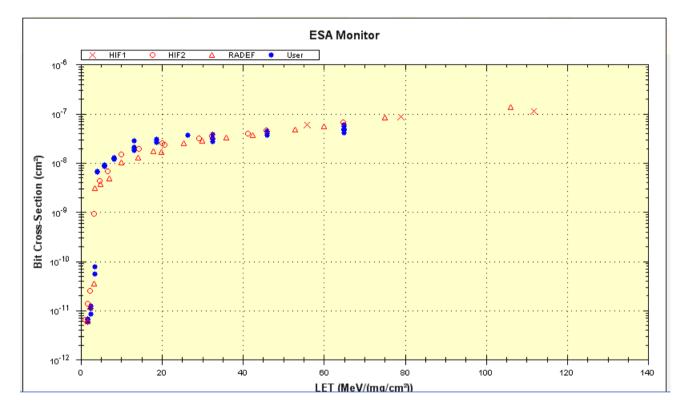


Terminplan Gantry 3	2012	2013	the state of the s	2014	2015	2016 4 Q1 Q2 Q3 Q4
Building WWHB					für Hallendienst:	1
Gallery west						
Crossing between halls						
Gantry 3 fundaments		\$				
Shielding, walls					Ab Juni 2014	Montage PSA
Infrastructure: electric, cooling, air-con.	l l		i I			
Specifications, planning / PIF breaks						
Gantry 3 components, beams-lines			1			
Gantry 3 assembling, mounting						
Control systems					; 1	1
Gantry 3 Commissioning						
New area PIF 🖈 / Gantry 3 operation		1	1		★	*



News -Test of HI facility in CIAE with ESA SEU Monitor





- Two SEU Monitors used at the same time
- Four different ions selected
- Three incoming angles
- Short proton pre-test conducted
- Analysis ongoing



