



TAXN @ P1 and P5

TAXN at P1 and P5 function remain unchanged BUT:

- HL-LHC operation will increase the **activation** and deposited power (1.8 kW @ $7.5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$)
- They will be **moved 13.8 m towards IP** respect to its current position.
- HL-LHC layout shortens length by 160 mm
- A new **WPS alignment system** will be placed on it.



Need active cooling

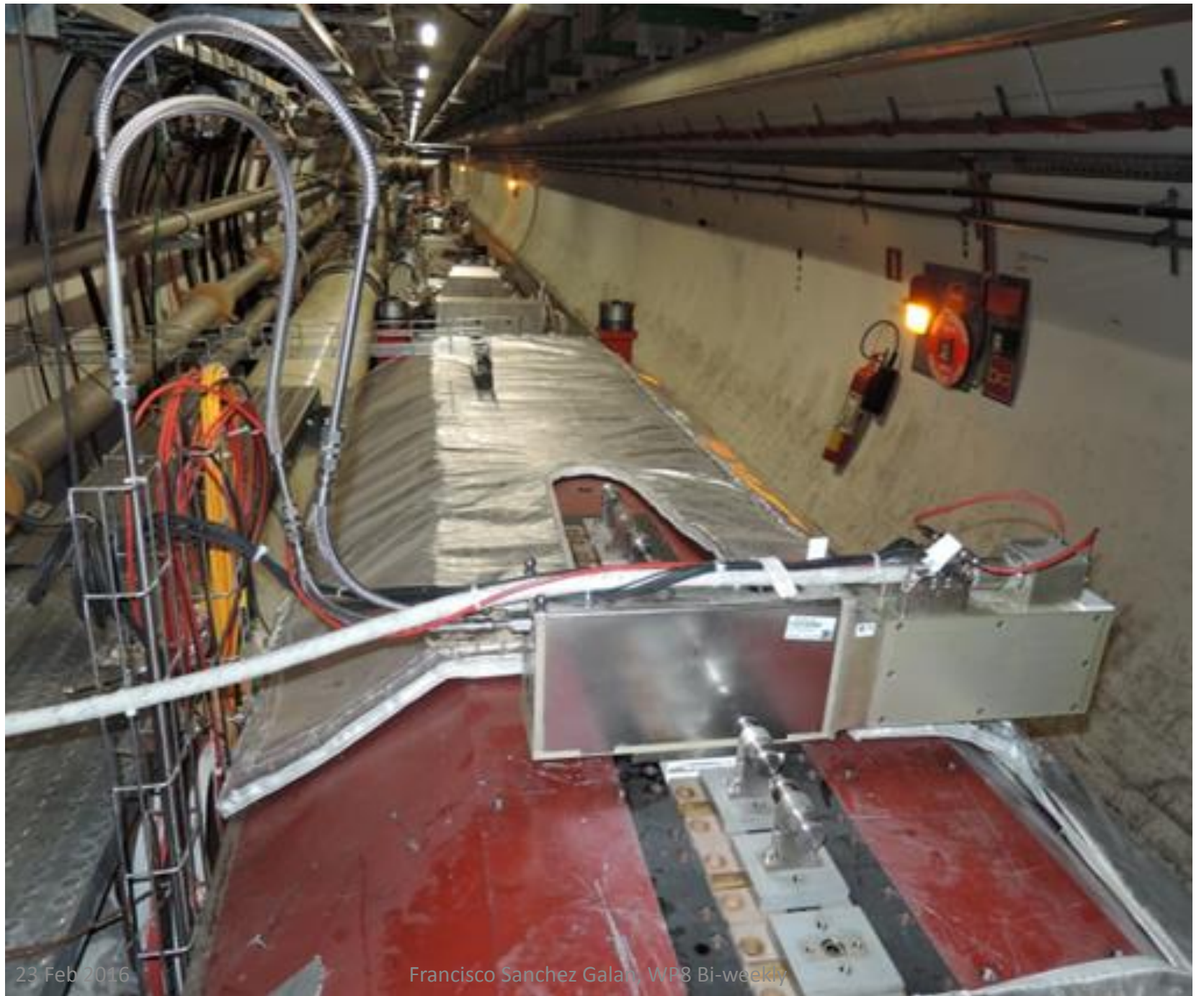


Full remote handling

Removal of Cu bars/detectors

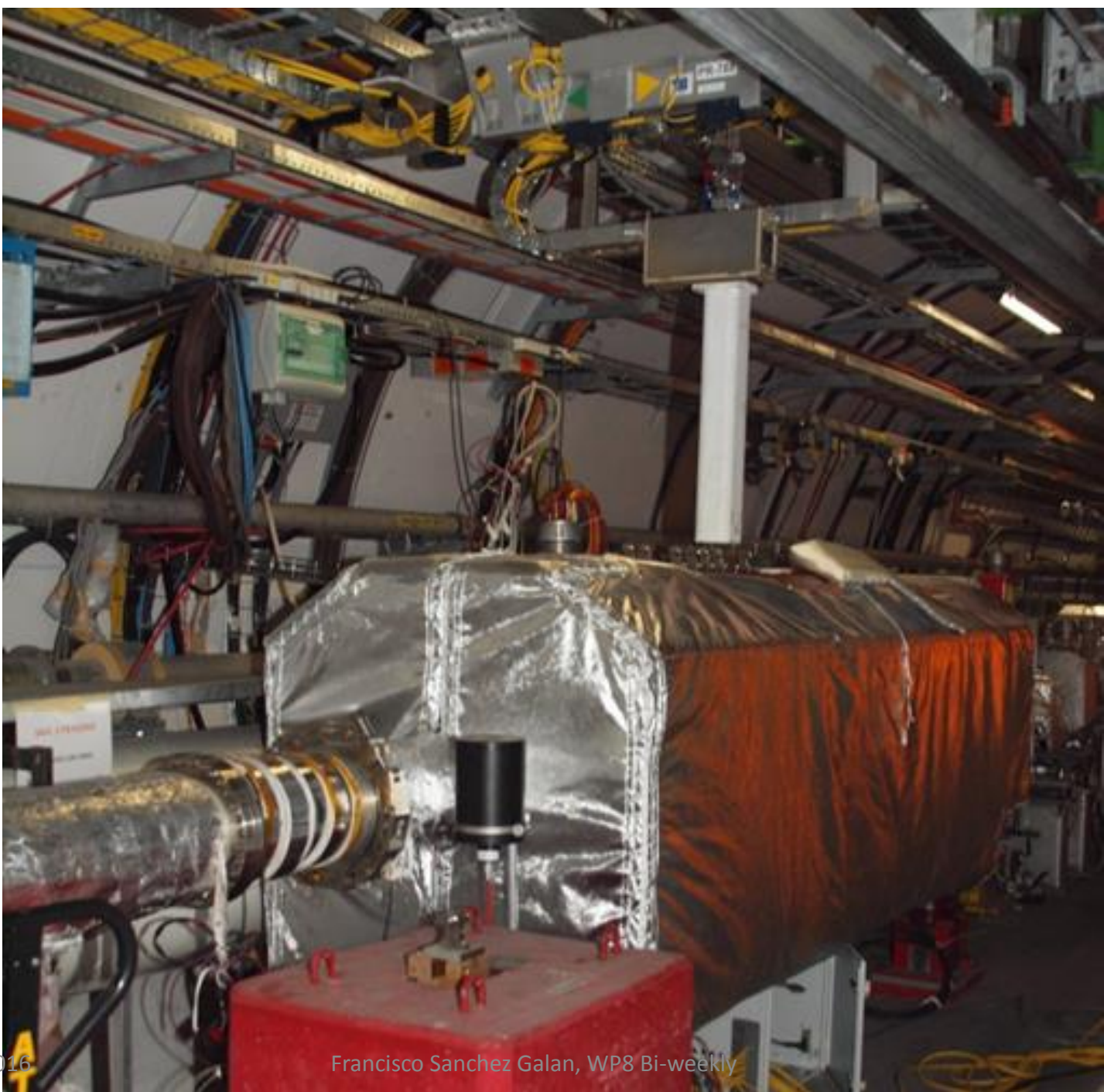
- Two systems:
- P1- Overhead crane <https://edms.cern.ch/document/1060374/3>
- P5- ZDC (HXTC)crane <https://edms.cern.ch/document/1392936/0.1>
<https://edms.cern.ch/document/1438508/0.1>
- P1 more flexible, but not fully remote.
- TAXN in a new location, is it ok?

Once the radiation veto has been removed, two people belonging to the EN/HE group will enter the tunnel and walk to the TAN to connect the tools needed for the operation of the remote handling system [2]. In the meanwhile the detector teams will



23 Feb 2016

Francisco Sanchez Galan, WP8 Bi-weekly



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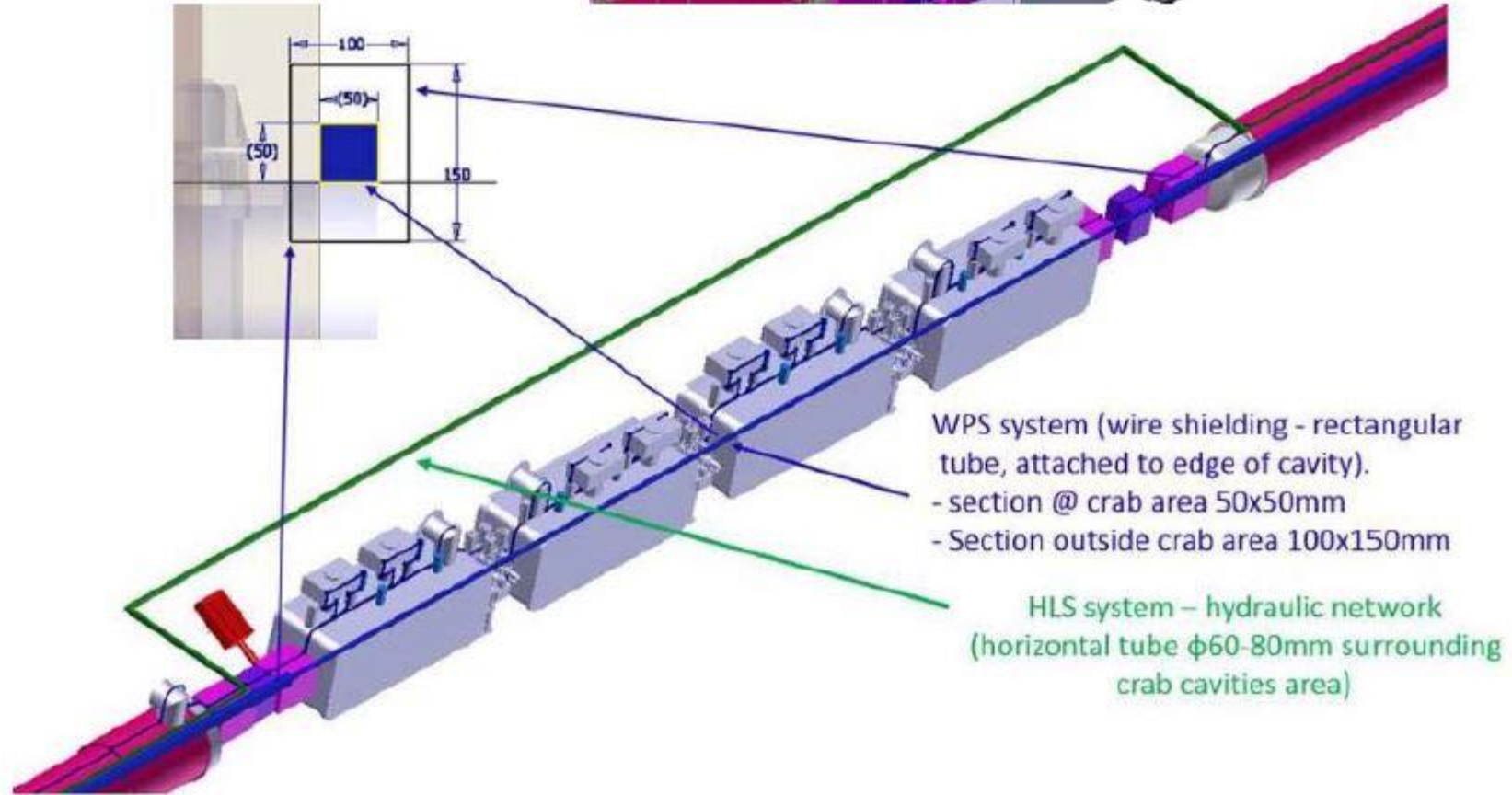
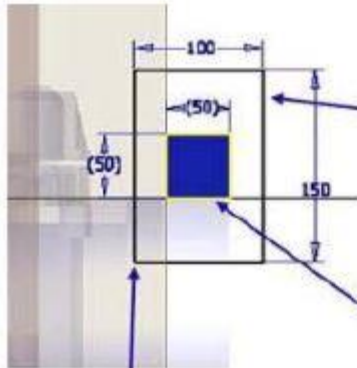
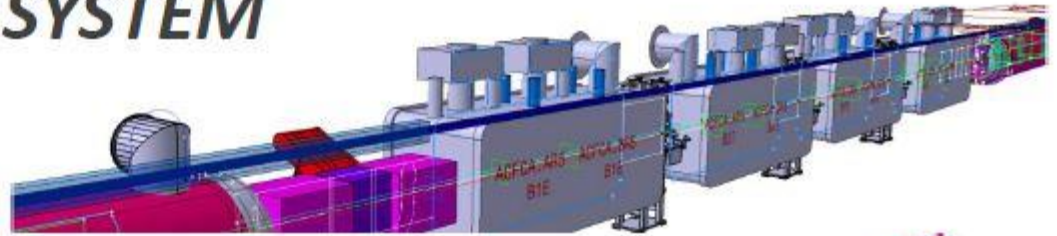
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NEW ALIGNMENT SYSTEM



WPS system (wire shielding - rectangular tube, attached to edge of cavity).
- section @ crab area 50x50mm
- Section outside crab area 100x150mm

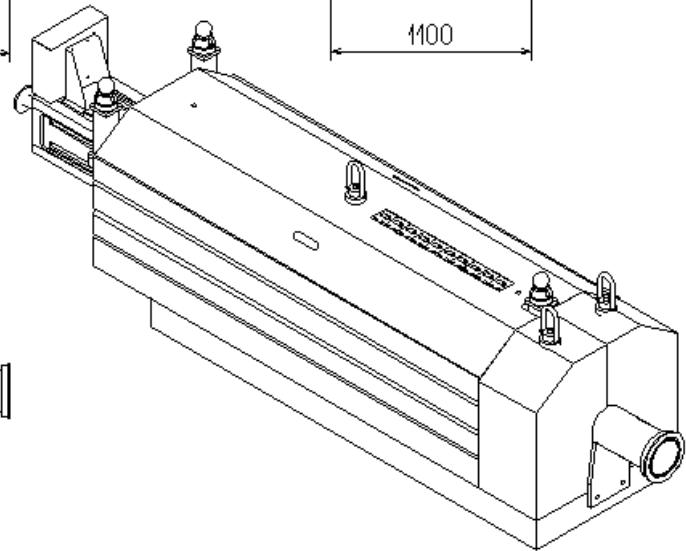
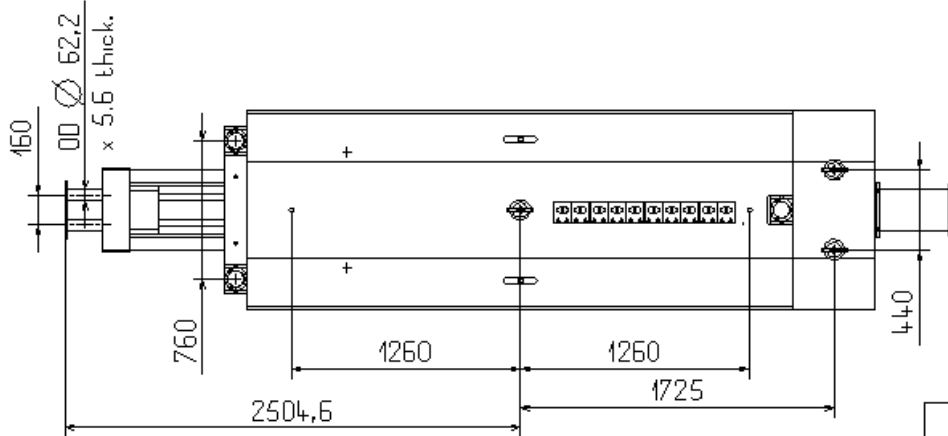
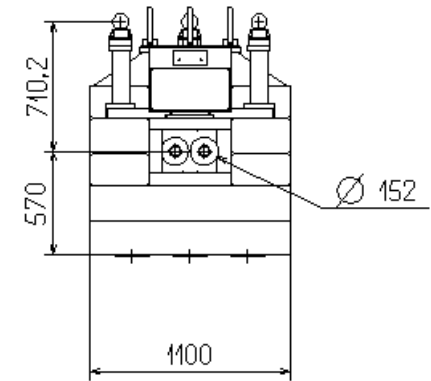
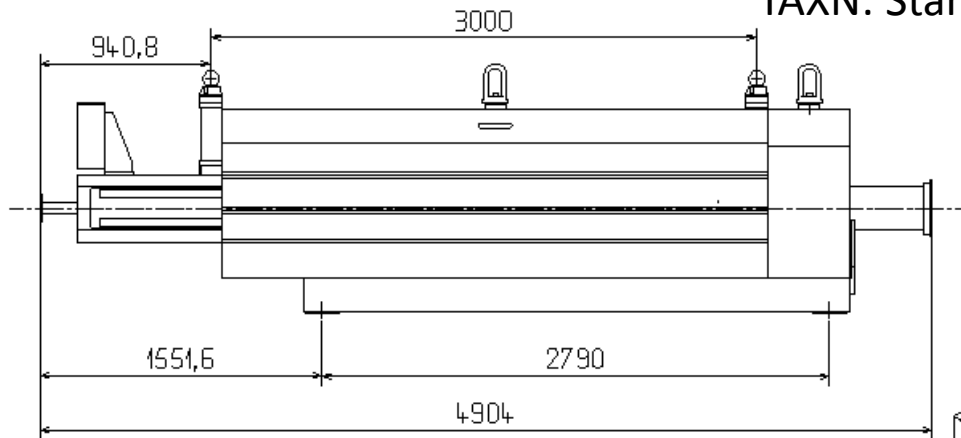
HLS system – hydraulic network
(horizontal tube $\phi 60-80$ mm surrounding crab cavities area)

TAXN AREA



TAN: Start at 139820, End at 144720

TAXN: Start at 125976, End at 130720



DIMENSION	> 4	> 6	> 30	> 20	> 35	> 100	> 200
PRÉCISION	± 0,1	± 0,2	± 0,3	± 0,5	± 0,8	± 1,2	± 2
PRÉCISION	± 0,1	± 0,2	± 0,3	± 0,5	± 0,8	± 1,2	± 2
PRÉCISION	± 0,1	± 0,2	± 0,3	± 0,5	± 0,8	± 1,2	± 2

DESSIN, RUGOSITÉ, TOLERANCES SELON NORME ISO
DRAWING, RUGOSITY, TOLERANCES ACCORDING TO ISO STANDARD

PROJECTION

ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH
CERN

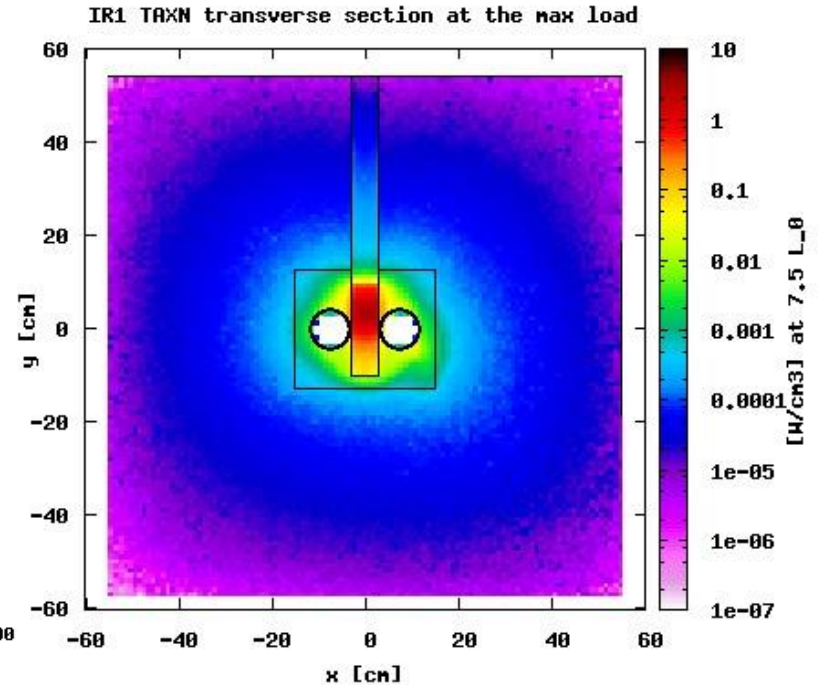
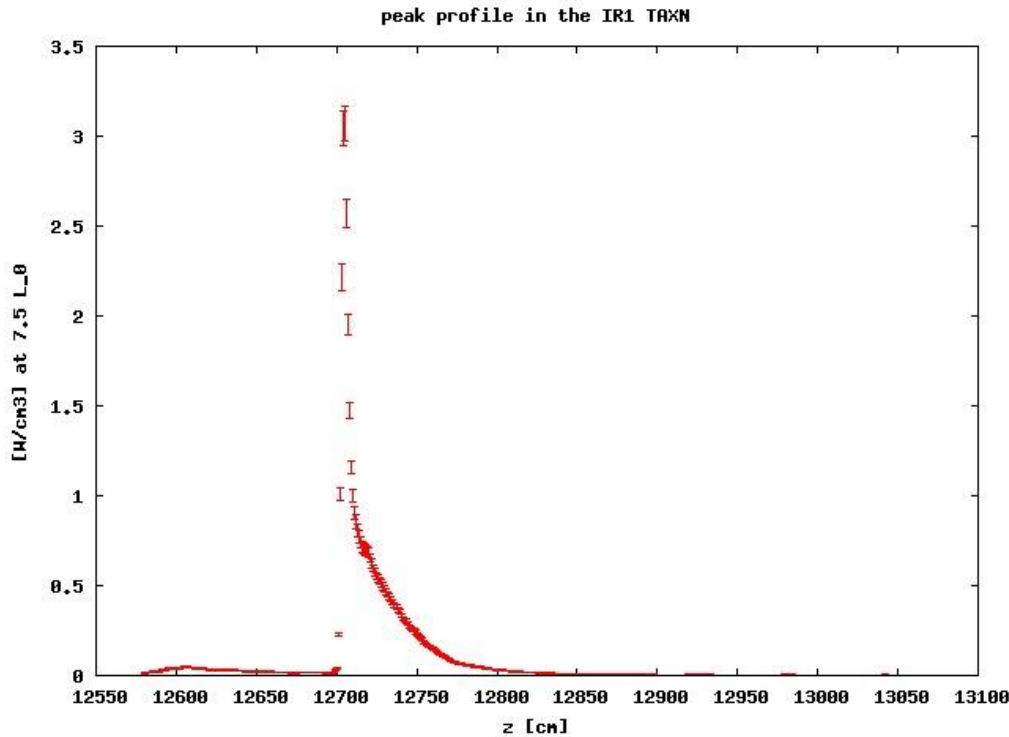
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IND.	DATE	NOM/NAME	ZONE	MODIFICATION
7		M. DORMOY		UPDATE POSITION
6				MODIFICATION
5				
4				

QUANT	1	DESCRIPTION	POS	MAT.	OBSERVATIONS	REF.CERN
ENS./ASS.						
LHC BEAM ABSORBER (SECONDARIES)						SENSE/SAISS
IP1/IP5 NEUTRAL BEAM ABSORBER (TAN) ASSEMBLY FOR INTEGRATION						ECHELLE SCALE 1:20
ASSEMBLAGE POUR INTEGRATION						
RELEASED BY PROJECT ENGINEER						FOR INFORMATION
GAC B						LHCTAN_0078
SIZE						IND.
3						A

SENSE/SAISS	1933, T004.202DMQ	
DES/DRA.	M. DORMOY	2002-06-27
CONTROLLED	Y. MUTTONI	2003-09-23
RELEASED	R. OSTOJIC	2003-09-23
APPROVED	-	-
LHCTAN_BEAMABS000,T004,T004.202SPL		
REPLACE/REPLACES		

TAXN @ IR1 Peak power density



F. Cerutti

TAXN P1 & P5 Open issues (some of them)

[Still in conceptual design phase]

- INERMET vs Cu (gains?)
- Quick connection
- Cooling system
- Operation ZDC-TAXN-BRAN Crane & lifting devices, need to be adapted or changed?