

LHCf updates @ TREX Dec. 2024 – Feb. 2025

L. Bonechi on behalf of the LHCf collaboration

31 Jan 2025



Activities completed in Dec. 2024

- Preparation of the 2025 oxygen run:
 - Update of firmware on silicon electronics
 - Test of the internal calibration mechanism
 - New test of the Arm2 silicon DAQ with the detector in USA15
 - Preliminary test of the Arm2 silicon DAQ with the detector near TAN
 - Removal of Arm2 from the TAN
- Survey to the LHCf cablings
 - Identification of LHCf Arm1/2 cables that must be removed in LS3





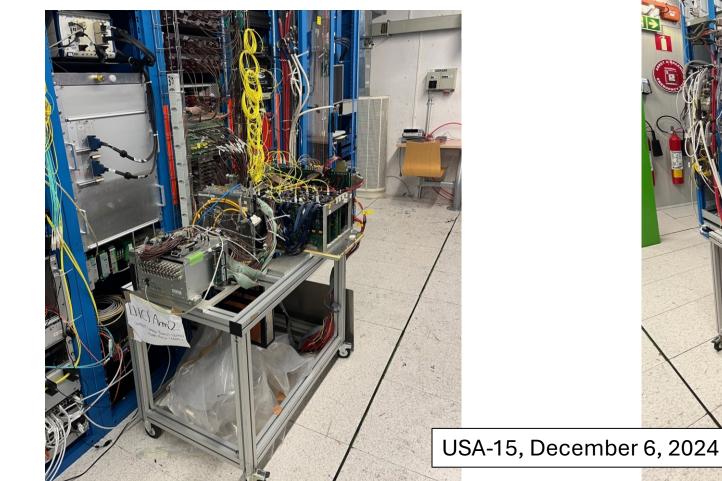
(completed 12/12)

(<mark>done, 12/12, 9:30</mark>)

Preliminary test of Arm2 in USA15



- Arm2 detector placed in front of the LHCf racks
- Test of silicon DAQ + calibration of microstrip detectors
- IMPACT: 240247



31 Jan 2025

Preliminary test of Arm2 in the LHC tunnel

LHCf updates @ TREX

- Started on 10 Dec 2024 in the afternoon
- 1 day with the Arm2 detector placed in front of the TAN in LSS1R
- IMPACT: 239785
- Main purpose: test of DAQ with 200m long fibers



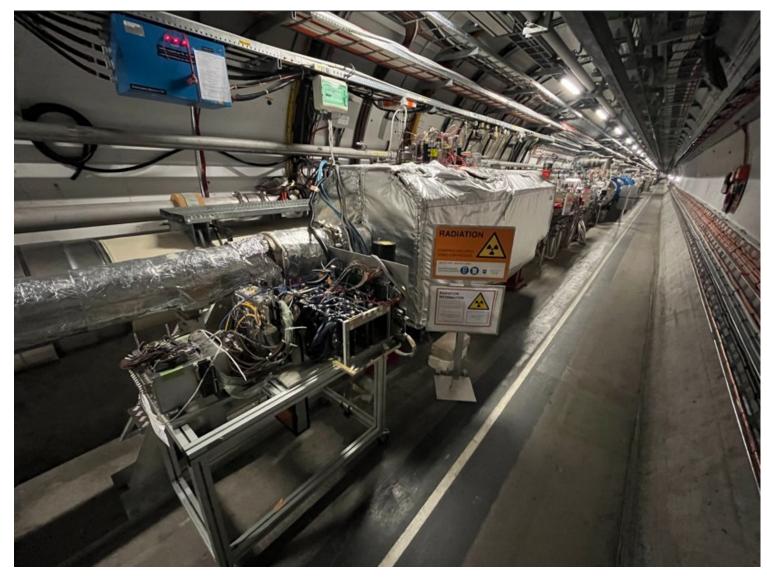
- <u>Installation point</u>: detector placed near the beam pipe, sufficiently far from the corridor
- <u>Operations</u>: Cables have been detached from the wall (QRL side), unrolled and passed onto the other side of TAN where they have been connected to the Arm2 detector
 - Special authorization was requested: https://edms.cern.ch/document/3191679/1.0
- Installation team and duration: two persons around TAN for approximately 30-60 min for transportation of the detector and cabling
- <u>Uncabling</u>, <u>cleaning</u> and <u>removal</u>: faster than installation
- <u>RP</u>: total dose: (40 + 48) μSv



Preliminary test of Arm2 in the LHC tunnel



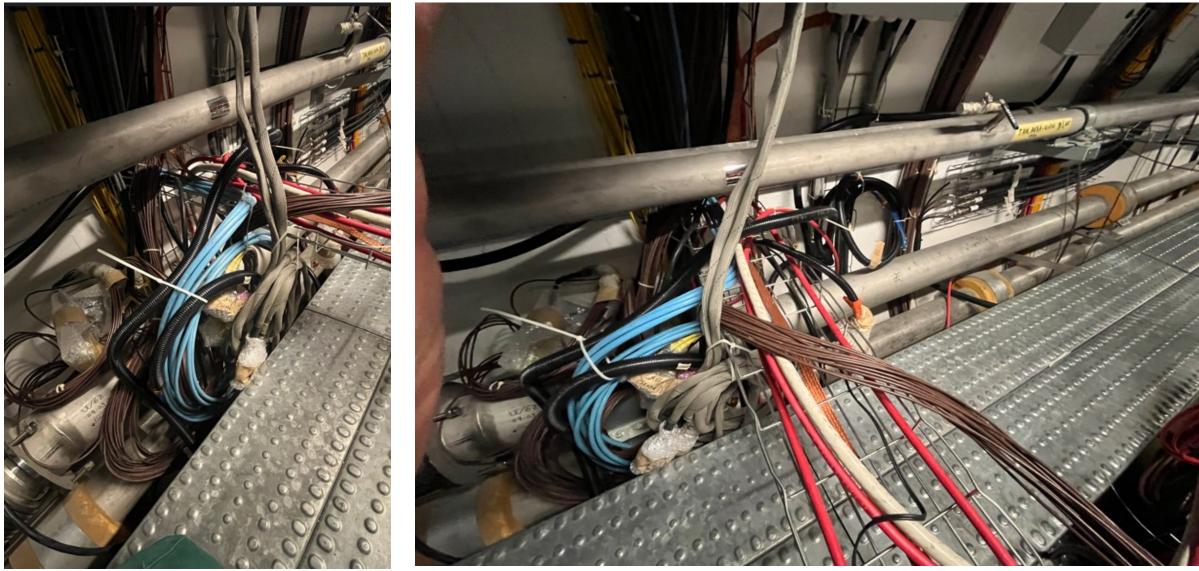




LHCf updates @ TREX

Preliminary test of Arm2 in the LHC tunnel





New temporary storage location





- To remove from this buffer zone we will be in contact with Brian Cole and Riccardo Longo





LHC Eyets 2024-2025 schedule

								8		10	
	Task Name 👻	Duration 🚽	Start 🚽	🗕 Finish 🚽	06 07 08 0	09 10 11 12	13 14 15 16	17 18 19 20 21 22 23	3 24 25 26 27 28 01	02 03 04 05 06 07	08 09 10
	4 LHC_EYETS_24-25_EDMS-3071990	168 days?	25/11/24 00:00	06/08/25 17:00							
167	4 Sector 12	85 days	25/11/24 08:00	04/04/25 17:00	-	manan				ununun antana antan	
196	4 LSS R1	85 days	25/11/24 08:00	04/04/25 17:00							
217	▲ LHCf	42.19 days	11/12/24 08:00	21/02/25 09:30	4						
218	1 st test	2.19 days	11/12/24 08:00	13/12/24 09:30	L						
226	✓ 2 nd test	4.19 days	17/02/25 08:00	21/02/25 09:30	L		2 nd test 🛛				
227	Transport of the Arm2 detector	0.5 hrs	17/02/25 08:00	17/02/25 08:30	L			Transport of the Arm2 det	ector		
228	Installation of the Arm2 detector in front of the TAN - tra	0.5 hrs	17/02/25 08:30	17/02/25 09:00	L			Installation of the Arm2 de	etector in front of the TAN -	transport area	
229	Cable connection - Access to QRL side	0.5 hrs	17/02/25 09:00	17/02/25 09:30	L			Cable connection - Access	o QRL side		
230	Test	3.6 edays	17/02/25 09:30	20/02/25 23:54	L			Test			
231	Cable disconnection - Access to QRL side	0.5 hrs	21/02/25 08:00	21/02/25 08:30	L			Cable dis	connection - Access to QRL si	de	
232	Dismantling of the Arm2 detector in front of the TAN - tr	0.5 hrs	21/02/25 08:30	21/02/25 09:00	L			Dismantl	ing of the Arm2 detector in t	front of the TAN - transp	ort area
233	Transport of the Arm2 detector	0.5 hrs	21/02/25 09:00	21/02/25 09:30	L			Transpor	t of the Arm2 detector		



LHC Eyets 2024-2025 schedule

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	Task Name 👻	Duration 🚽	- Start	👻 Finish	- 1	06 07 08 09	9 10 11 12	13 14	15 16	17 18	19 20	1 22 23	24 25 26 2	7 28 01	02 03 0	4 05 06	07 08 09 10
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218	1 st test	2.19 days	11/12/24 08:00	13/12/24 09:30	L												
226	✓ 2 nd test	4.19 days	17/02/25 08:00	21/02/25 09:30	L			21	nd test			P					
227	Transport of the Arm2 detector	0.5 hrs	17/02/25 08:00	17/02/25 08:30	L					Transp	port of the	Arm2 dete	ector				
228	Installation of the Arm2 detector in front of the TAN - tra	0.5 hrs	17/02/25 08:30	17/02/25 09:00	L				1	Install	lation of th	e Arm2 de	tector in front of	the TAN	- transport a	area	
229	Cable connection - Access to QRL side	0.5 hrs	17/02/25 09:00	17/02/25 09:30	L					Cable	connectio	n - Access to	o QRL side				
230	Test	3.6 edays	17/02/25 09:30	20/02/25 23:54	L							Test					
231	Cable disconnection - Access to QRL side	0.5 hrs	21/02/25 08:00	21/02/25 08:30	L							Cable disc	onnection - Acce	ss to QRL	side		
232	Dismantling of the Arm2 detector in front of the TAN - tr	0.5 hrs	21/02/25 08:30	21/02/25 09:00	L							Dismantli	ng of the Arm2 d	letector in	n front of th	e TAN - tra	nsport area
233	Transport of the Arm2 detector	0.5 hrs	21/02/25 09:00	21/02/25 09:30	L							Transport	of the Arm2 de	tector			
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- LHCf activity in the LHC tunnel is already scheduled in week 8 (Feb. 17-21)
 - Both installation in the LHC tunnel and cabling/test works in USA15



LHC Eyets 2024-2025 schedule

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	Task Name 👻	Duration 🚽	- Start	✓ Finish	-	06 07 08 0	9 10 11 1	2 13 14 15 16	6 <mark>171</mark>	8 19 20	1 22 23	24 25 26 27 2	8 01 02 03	3 04 05 06	07 08 09 10
	4 LHC_EYETS_24-25_EDMS-3071990	168 days?	25/11/24 00:00	06/08/25 17:00											
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233	Transport of the Arm2 detector	0.5 hrs	21/02/25 09:00	21/02/25 09:30	L	L					Transport	of the Arm2 detect	or		
									-						

- LHCf activity in the LHC tunnel is already scheduled in week 8 (Feb. 17-21)
 - Both installation in the LHC tunnel and cabling/test works in USA15
- The LHCf team will arrive at CERN at the beginning of week 7 (Feb. 10-14)
- I would like to request the access for both weeks (from Feb. 12 or 13)

ToBeDone



- IMPACTS (for USA15 and LHC TNL)
 - Contacts with logistics and ATLAS/ZDC
 - Others?

Permissions

• Work on QRL side at TAN: to be requested

ODH detector

• To be requested (in Dec. we had two, provided by the James Devine team)

Arm2 detector

- A place to store it from February until June has to be identified
 - The detector is classified as radioactive, even if the activation has an extremely low level
 - It must be easily accessible for the LHCf team
- Problems with air conditioning in storage barrack 6112
 - Suddently it stops working (we have to switch of and on again to restart)
 - Contacted the ATLAS tech coord
 - The two barracks will be included in the annual service plan, but currently I suppose no repair was done