

WP10, Transnational Access - Proton, heavy ion and alternative beams and irradiation

Françoise Bezerra (CNES)

Arto Javanainen (University of Jyväskylä)

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<https://indico.cern.ch/e/radnext-2024>



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Outline

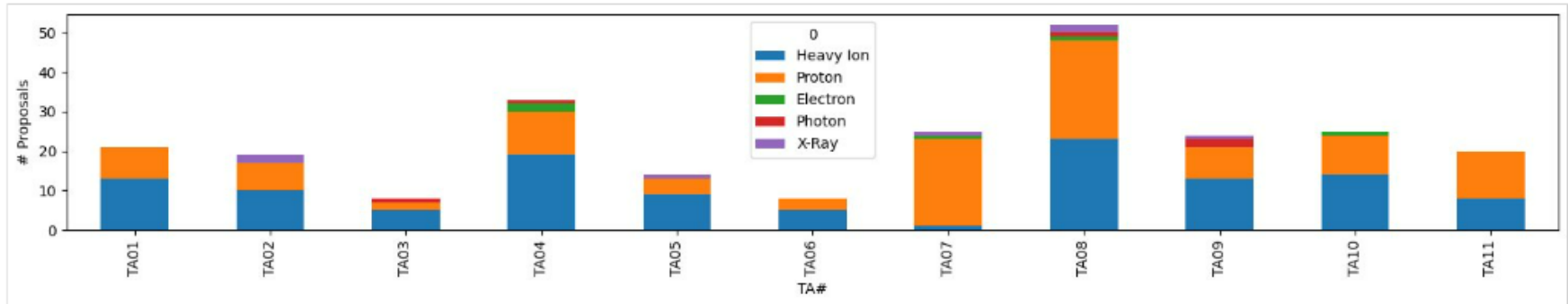
- Facilities addressed by WP10 - TA02
- Statistics after 10 calls
 - Acceptance ratio
 - Allocated beam time (HI, P, AF)
- Beam time by facility
- Reports: Status
- Conclusion

Third year achievements and ongoing activities

Facility/Country	Heavy ions	Protons	Alternative
GSI - Germany	✓		
UMCG PARTREC - The Netherlands	✓	✓	
GANIL France	✓	✓	
RADEF Finland	✓	✓	
UCLouvain Belgium	✓	✓	
PSI Switzerland		✓	
CNA Spain		✓	
NPI CAS Czech Republic	H ⁺ , D ⁺ , 3He ²⁺ , 4He ²⁺	✓	
TRIUMF Canada		✓	
HZDR Germany		✓	e ⁻ , γ
ESRF France			Pulsed Xrays
CLPU Spain		✓	e ⁻ , Xrays
CERN Switzerland	✓		
HPTC - The Netherlands		✓	

WP10 – Received Proposals

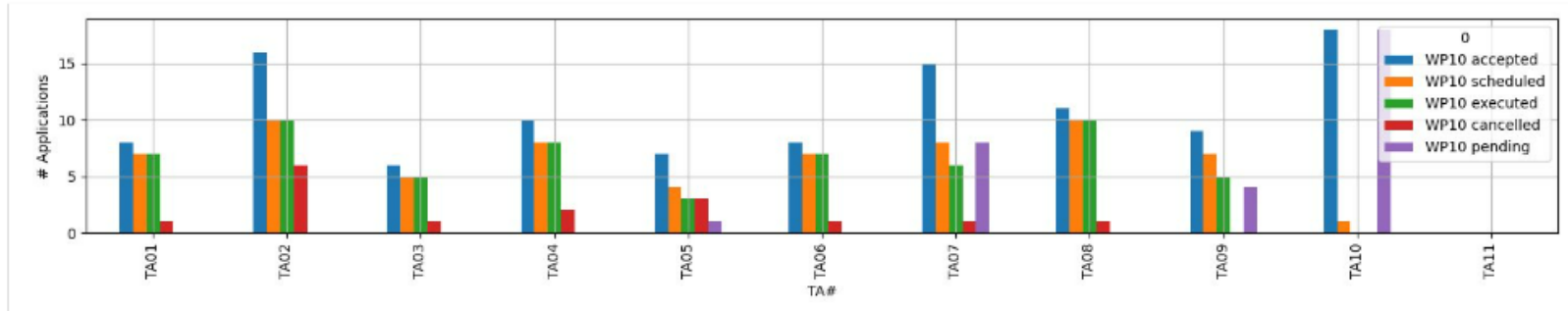
	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07	TA08	TA09	TA10	TA11
Heavy Ion	120	13	10	5	19	9	5	1	23	13	14	8
Proton	112	8	7	2	11	4	3	22	25	8	10	12
Electron	5	0	0	0	2	0	0	1	1	0	1	0
Photon	5	0	0	1	1	0	0	0	1	2	0	0
X-Ray	7	0	2	0	0	1	0	1	2	1	0	0



WP10 – Accepted Proposal Status

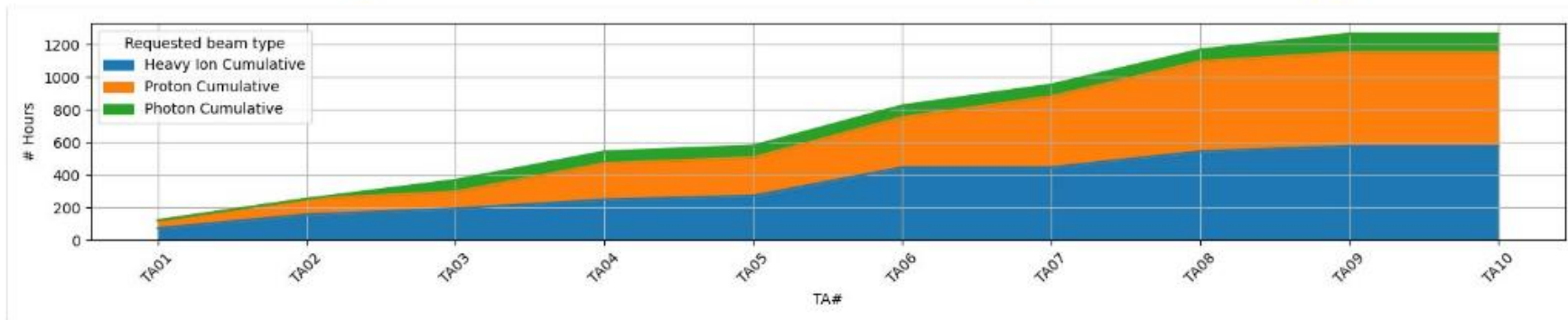
TA11 review ongoing

	Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07	TA08	TA09	TA10	TA11
WP10 accepted	108	8	16	6	10	7	8	15	11	9	18	0
WP10 scheduled	67	7	10	5	8	4	7	8	10	7	1	0
WP10 executed	61	7	10	5	8	3	7	6	10	5	0	0
WP10 cancelled	16	1	6	1	2	3	1	1	1	0	0	0
WP10 pending	31	0	0	0	0	1	0	8	0	4	18	0



pending = accepted – executed - cancelled

WP10 – Assigned vs. Executed hours per beam type



		Total	TA01	TA02	TA03	TA04	TA05	TA06	TA07	TA08	TA09	TA10
Heavy ion	Assigned	736	76	64	32	56	64	168	-	88	80	108
	Executed	578	74.5	84	36	55.5	24	174	-	98	32	0
	ratio-%	78.5	98.0	131.3	112.5	99.1	37.5	103.6	-	111.4	40.0	0.0
Proton	Assigned	794	48	44	8	102	12	73	260	119	48	80
	Executed	577	48	48	8	119	12	73	128	116.75	24	0
	ratio-%	72.6	100.0	109.1	100.0	116.7	100.0	100.0	49.2	98.1	50.0	0.0
Photon	Assigned	108	-	-	72	-	-	-	-	-	36	-
	Executed	114	-	-	72	-	-	-	-	-	42	-
	ratio-%	105.6	-	-	100.0	-	-	-	-	-	116.7	-
Total	Assigned	1638	124	108	112	158	76	241	260	207	164	188
	Executed	1268.75	122.5	132	116	174.5	36	247	128	214.75	98	0
	ratio-%	77.5	98.8	122.2	103.6	110.4	47.4	102.5	49.2	103.7	59.8	0.0

Third year achievements and ongoing activities

- **Heavy ions: Beam hours by facility**

Facility	TA available (h)	Assigned (h)	Scheduled (h)	Delivered (h)	TBD (h)	delivered/available (%)
GSI – Germany SIS18	64	40	16	16	8	25
GSI – Germany UNILAC	128	32	-	48	-	37,5
UMCG PARTREC - The Netherlands	12	12	-	12	-	100
GANIL France	158	72	40*	32	-	20
RADEF Finland	255	224	12	199	24	78
UCLouvain Belgium	280	268	200	197	68	70
CERN Switzerland (CHIMERA)	500	96	96	102	-	20

*GANIL: The 40 scheduled hours will be done in September (32h) and march 25 (8h)

Third year achievements and ongoing activities

- **Protons:** Beam hours by facility

Facility	TA available (h)	Assigned (h)	Scheduled (h)	Delivered (h)	TBD (h)	delivered/available (%)
UMCG PARTREC - The Netherlands	323	145	-	85	64*	26
RADEF Finland	45	45	-	45	-	100
PSI Switzerland	193	211	8	123	84	64
CNA Spain	200	128	-	104	24	52
NPI CAS Czech Republic	40	21	-	15,75	-	39
TRIUMF Canada BL1B	148**	124	-	76	48	51
HZDR – Germany DRACO	82	-	-	-	-	0
CLPU Spain VEGA	128	108	-	128	-	100
HPTC - The Netherlands	26	-	-	-	-	-

*PARTREC: The TBD 64 hours will be cancelled if PARTREC doesn't provide beam in October.

**TRIUMF BL1B: In addition 20 h initially committed to protons were used to provide low flux neutrons

Third year achievements and ongoing activities

- Alternative facilities: Beam hours by facility

Facility	TA available (h)	Assigned (h)	Scheduled (h)	Delivered (h)	delivered/available (%)
HZDR Germany gElbe (gamma)	108	108	-	114	106
ESRF France ID09 (Pulsed Xrays)	288	TBC*	-	-	0

*ESRF:

- The unique accepted proposal to ESRF local PAC was to be submitted in February 2024 => no feedback yet
- 3 other proposals were accepted and had to be cancelled:
 - 1 proposal rejected by ESRF local PAC
 - 2 proposal removed because not acceptable in the frame of RADNEXT (French teams)
=> Accepted by ESRF local pack and performed out of the RADNEXT project

Third year achievements and ongoing activities

- Reporting

Delivered reports vs performed test

Beam Type - TA call	TA01	TA02	TA03	TA04	TA05	TA06	TA07	TA08	TA09	TA10	Total
Heavy ions	4/5	6/6	3/3	4/4	2/2	4/4	0/0	0/5	0/2	0/0	23/31
Protons	2/2	4/4	1/1	4/4	1/1	3/3	5/6	4/5	0/1	0/1	24/28
Alternative Facilities	0	0	1/1	0	0	0	0/0	0	1/2	0	2/3
Total	85%	100%	100%	100%	100%	100%	83%	40%	20%	0%	79%

=> Only 1 report is missing for more than 6 months

Conclusion: Current situation

Heavy ion facilities

Institute / Organisation	Facility	Country	Beam type	11 th TA call (May 2024)	Comment
CERN	SPS North Area	Switzerland	Pb 150 GeV/n	Available	-
UCL	HIF	Belgium	Cocktail energy 9.3 MeV/n	Limited	Approaching end of TA funds
JYU	RADEF	Finland	Cocktail energy 16.3 MeV/n	Limited	Approaching end of TA funds
GSI	SIS-18	Germany	U 100-800 MeV/n	Unavailable	-
GANIL	GANIL	France	Xe 10-50 MeV/n	Unavailable	-
UMCG	PARTREC/AGOR	The Netherlands	Light ions 30-80 MeV/n	Unavailable	-
CERN	CHIMERA/HEARTS	Switzerland	Pb 130-1000 MeV/n	Unavailable	-
GSI	UNILAC	Germany	Ti and Au up to 10 MeV/n	Unavailable	Will be available in call 12 (September)



Proton facilities

Institute / Organisation	Facility	Country	Beam type	11 th TA call (May 2024)	Comment
HZDR	DRACO	Germany	Laser pulsed proton spectrum	Available	-
CNA	Tandem/Cyclotron	Spain	Mono-energetic < 20 MeV	Available	-
NPI-CAS	CANAM	Czech Republic	Mono-energetic < 35 MeV	Available	-
UMCG	PARTREC/AGOR	The Netherlands	Mono-energetic 10-190 MeV	Available	-
HPTC	HPTC	Netherlands	Mono-energetic 70-250 MeV	Available	-
TRIUMF	BL1B	Canada	Mono-energetic 360-500 MeV	Limited	Approaching end of TA funds
PSI	PIF	Switzerland	Mono-energetic 10-230 MeV	Limited	At the end of TA funds
CLPU	VEGA	Spain	Laser pulsed proton spectrum	Unavailable	-



- Some facilities are close to the end of TA funds
- Other facilities are temporary not available
- A new proton facility: HPTC (70-250MeV up to 26h)
- HZDR-DRACO never used (no need for proton spectrum)
- Deliverables: P2 Technical report due by 15/06/2024.
- Thanks to Andrea Coronetti, former WP deputy

Thanks for your attention!



Image Source: CERN