

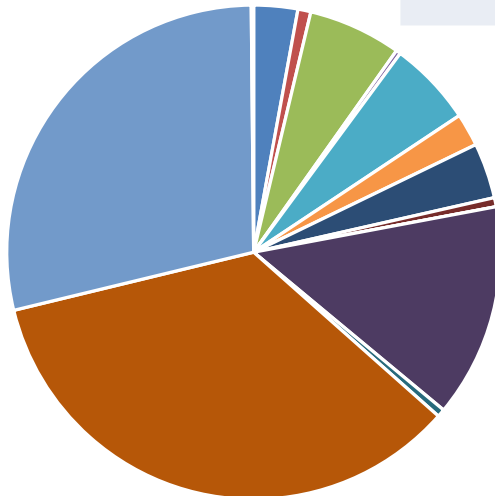
DUNE Report on use of computing capacity in 2023

Slides prepared by Heidi Schellman

Breakdown in k-HS23-Years

Production

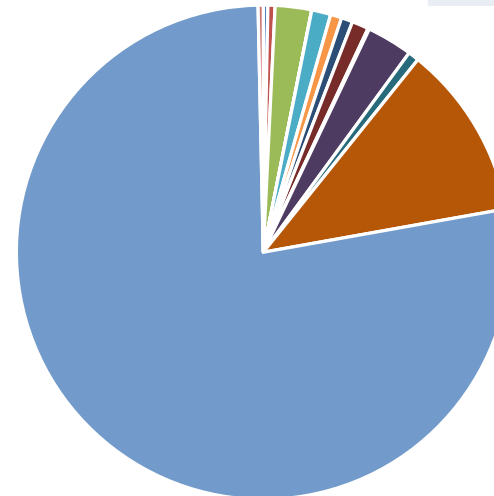
10.26 k-HS23-Years



- BR
- CA
- CERN
- CH
- CZ
- ES
- FR
- IN
- IT
- NL
- RU
- UK
- US
- undefined

Analysis

35.88 k-HS23-Years

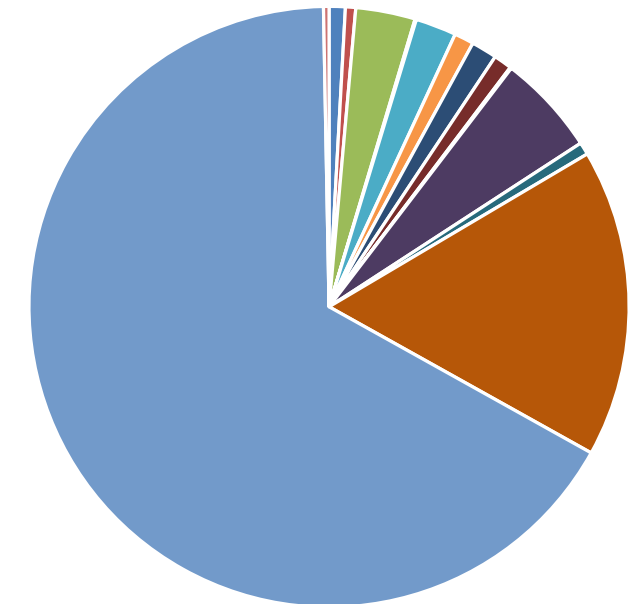


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Total for 2022-12 to 2023-11

- Total CPU In '2023'
- Total Slot kHS23-years = 46.
- As can be seen, dominated by usage in the US and specifically at FNAL
- Analysis – 35.88 kHS23-years
- Production – 10.26 kHS23-years
- Some of that is export control...
- ...some of that is analyzer hesitancy.
- Good news, in second half of the year we have had several large campaigns.

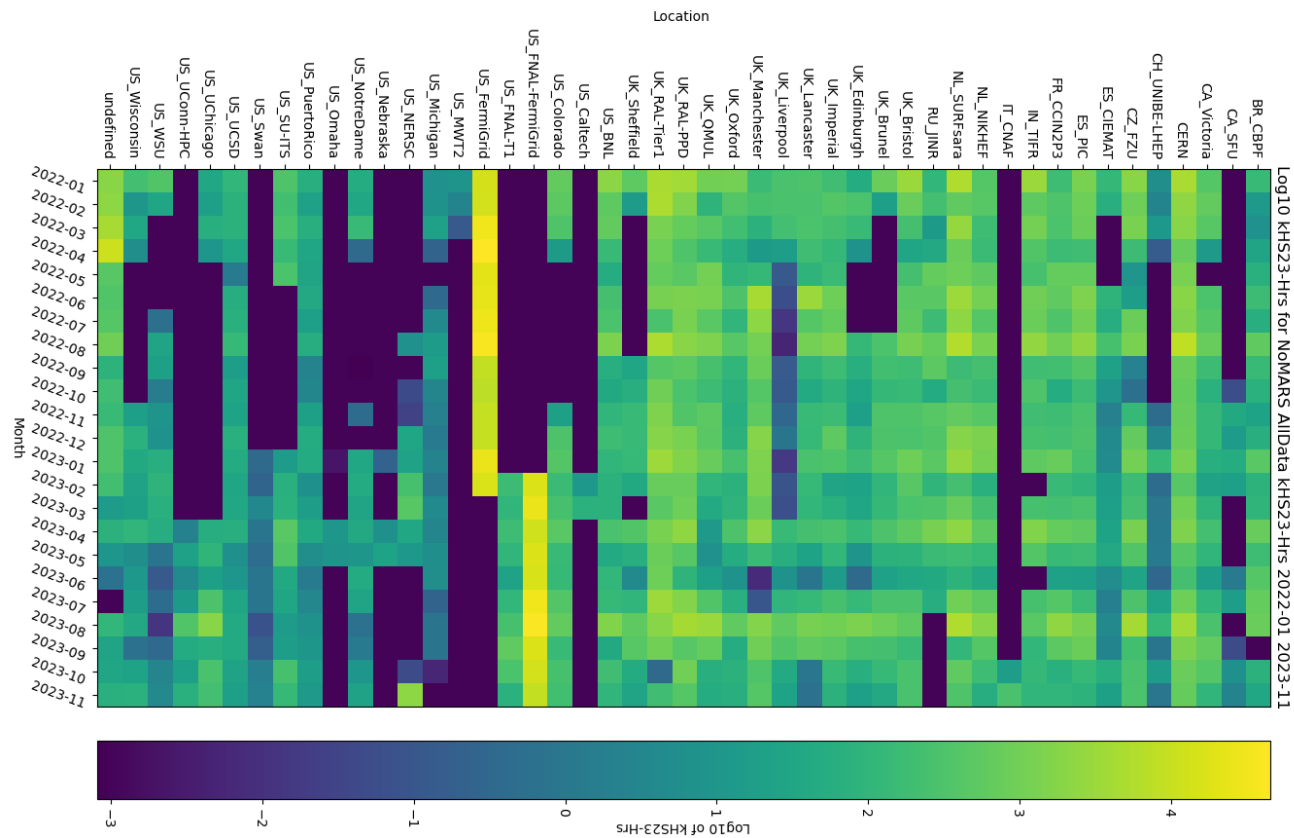
Total



2022 – kHS23-years				2023 – kHS23-years			
Country	Production	Analysis	Total	Country	Production	Analysis	Total
BR	0.09	0.06	0.16	BR	0.30	0.11	0.40
CA	0.11	0.28	0.39	CA	0.09	0.17	0.26
CERN	1.57	1.30	2.87	CERN	0.63	0.85	1.48
CH	0.00	0.00	0.00	CH	0.03	0.00	0.03
CZ	0.39	0.42	0.80	CZ	0.57	0.45	1.02
ES	0.53	0.64	1.17	ES	0.22	0.27	0.49
FR	0.13	0.35	0.48	FR	0.37	0.27	0.64
IN	0.59	0.61	1.19	IN	0.06	0.39	0.45
IT	0.00	0.00	0.00	IT	0.00	0.03	0.03
NL	1.82	1.69	3.51	NL	1.43	1.08	2.51
RU	0.10	0.32	0.42	RU	0.05	0.26	0.31
UK	5.01	4.41	9.43	UK	3.56	4.10	7.65
US	4.32	25.55	29.87	US	2.94	27.80	30.73
undefined	2.26	0.35	2.61	undefined	0.02	0.12	0.14
Total	16.92	35.98	52.90	Total	10.26	35.88	46.14

2022 - core years				2023 core-years			
Country	Production	Analysis	Total	Country	Production	Analysis	Total
BR	8	5	14	BR	26	9	36
CA	9	25	35	CA	7	15	23
CERN	142	118	261	CERN	56	77	134
CH	0	0	0	CH	2	0	3
CZ	35	37	73	CZ	51	40	92
ES	48	58	106	ES	20	24	44
FR	11	31	43	FR	33	24	58
IN	53	55	108	IN	5	35	41
IT	0	0	0	IT	0	3	3
NL	165	153	319	NL	130	97	228
RU	9	29	38	RU	4	23	28
UK	455	401	856	UK	323	372	695
US	392	2323	2715	US	266	2527	2793
undefined	205	31	236	undefined	1	11	12
Total	1538	3270	4809	Total	932	3261	4194

Usage vs Month for each site



Campaigns not completed

- ProtoDUNE II operations continue to be delayed due to lack of Liquid Argon
 - had projected 6 weeks of beam and 6 weeks of cosmic operations for each detector
 - plan for operation of both NP02 and NP04 in the next year
- Far Detector Campaigns anticipated for early in the year, significantly delayed
 - July 2023 : Request for FD1-HD and FD2-VD production phase 1 – 24M evts
 - November 2023 : FD1-HD and FD2-VD production phase 2 - 24M evts
 - October 2023 : Request for FD1-HD atmospheric production - 15M evts
- Now mostly completed and working towards ND simulation campaigns

Usage of Storage elements

- Lack of operation of ProtoDUNE II has meant that a significant amount of requested storage has not been utilized
- We really hope to fix that soon
- Continue to test access and utilization over the next 4 months leading up to WLCG DC24