



Korea Institute of
Science and Technology Information



SUT-Thailand site report

Chinorat Kobdaj

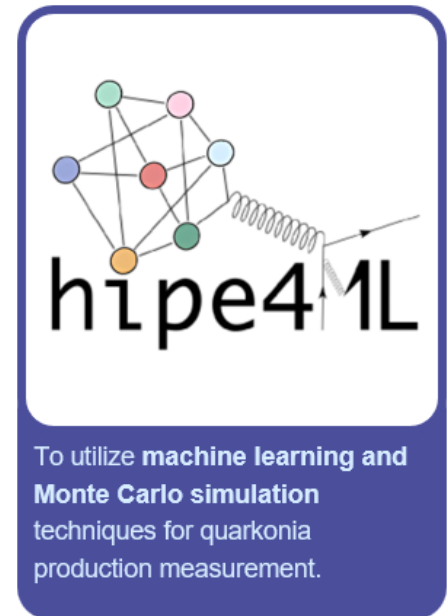
6th Asia Tier Center Forum

21-24 November 2022

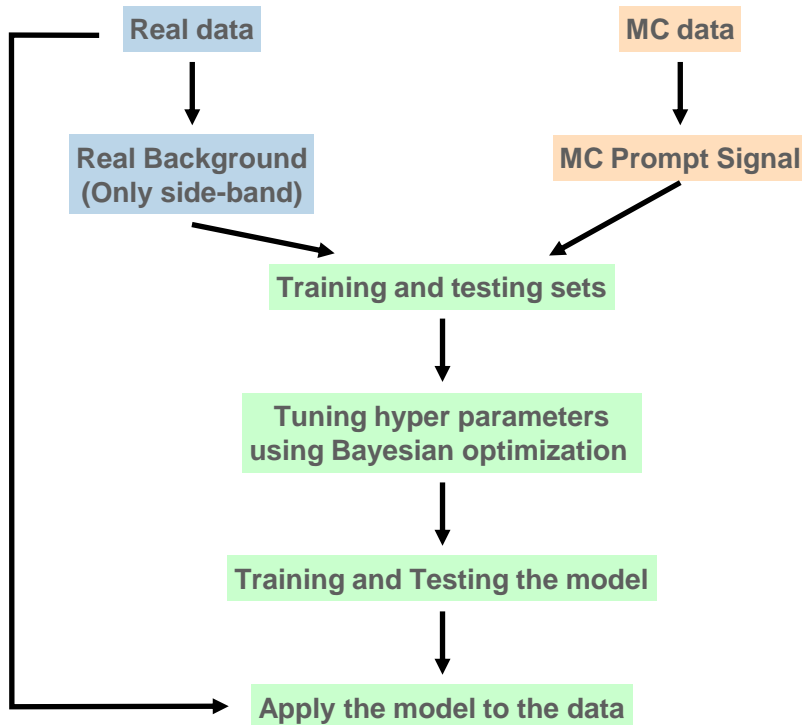
Krabi Thailand

Primary Analysis Interest with pp data at 13.6 TeV

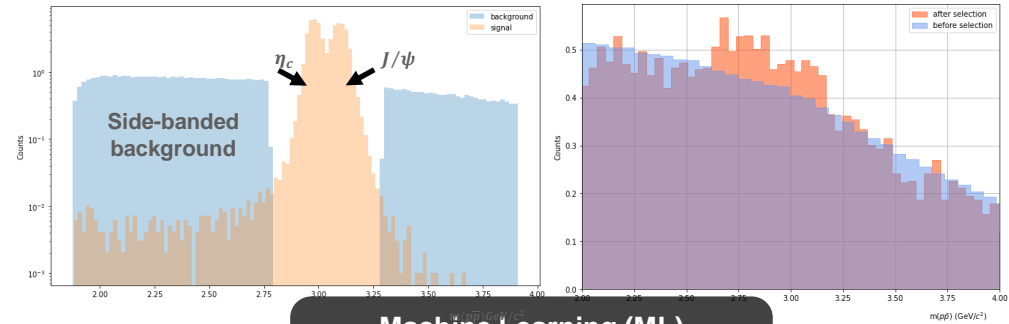
- Inclusive production and p_T -differential cross-section measurement of $\eta_c \rightarrow p\bar{p}$ in the new pp data.
- Estimated number of people
 - 1 Researcher from SUT: Chinorat Kobdaj
 - 1 Ph.D. student : Tawanchat Simantathammakul
(will be at CERN from Dec 22 –July 23)
 - In collaborate with Benjamin Dönigus of Goethe-Universität Frankfurt am Main



Analysis of $\eta_c \rightarrow p\bar{p}$ in pp Collisions at $\sqrt{s} = 13$ TeV with ALICE at the LHC



The invariant mass distributions of η_c and J/ψ before and after applying model selection.



Machine Learning (ML)

- For the multivariate selection phase of this study, we employ **hipe4ML**, a minimal heavy-ion physics environment for machine learning.
- **eXtreme Gradient Boosting (XGBoost)** is used for binary classification to separate signal and background.
- We use **Bayesian optimization** for tuning hyperparameters in the machine learning.

Research @ CERN 2022

SUT

1 Phd. student
1 researcher

SLRI

1 researcher



Research @ CERN 2022

Setup sigle chip test systems

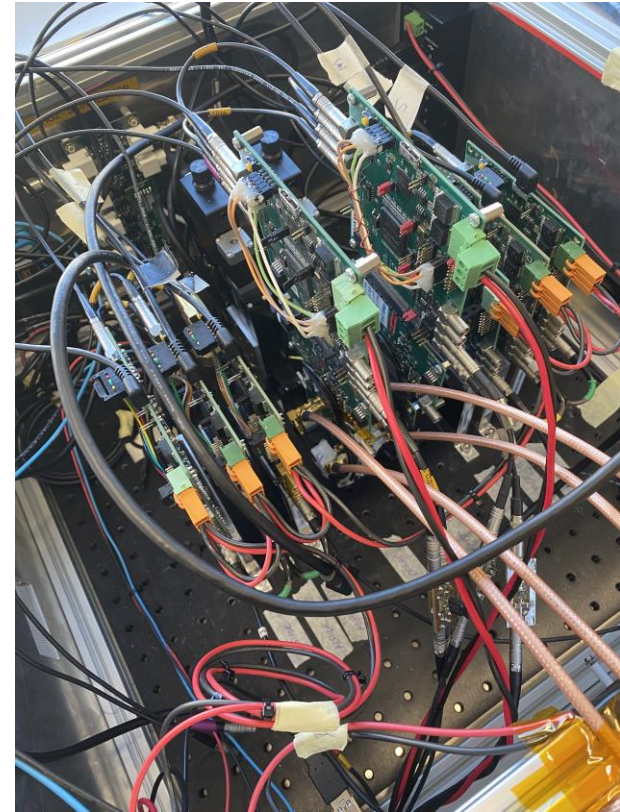
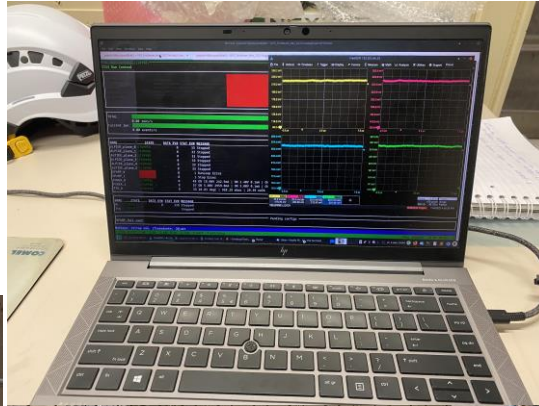
APTS_SF



Research @ CERN 2022

Participate

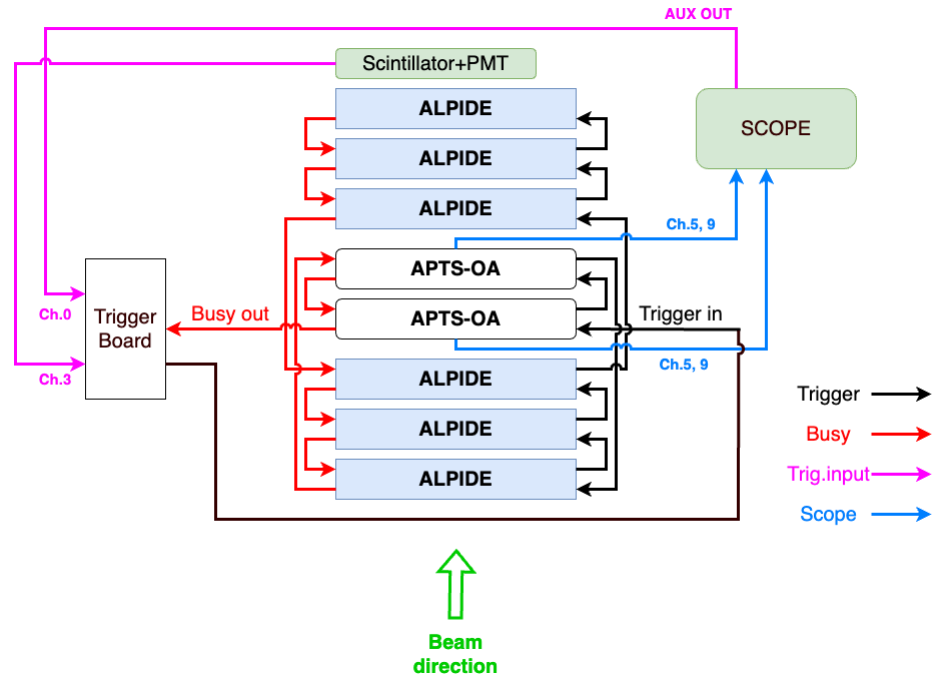
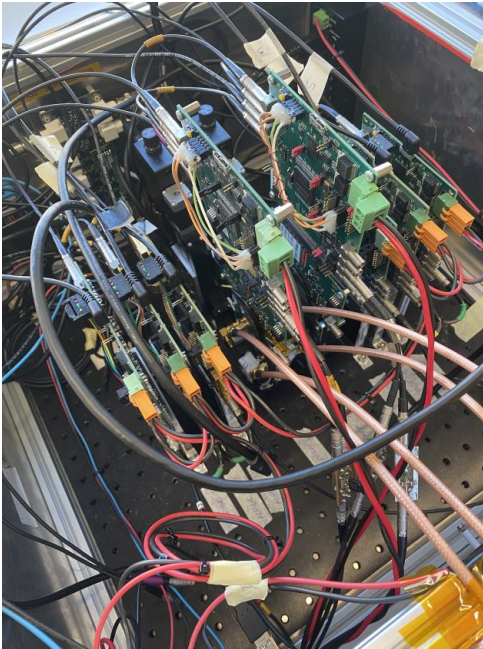
Test beam at SPS



Research @ CERN 2022

Participate

Test beam at SPS



Tier 2 sites in Thailand

◆ T2-TH-SUT (ALICE)



SUT

<SUT>

Links: FDT, Kernel parameters tuning

Alternative views: Chart | Map

IN from							
No.	ID	Site	When	Speed (Mbps)	Hops	RTT (ms)	Streams
1.	2315863	NECTEC	23 Oct 2015 23:17	864.07	8	5.48	1
2.	4586283	KISTI_GSDC	18 Nov 2022 20:14	335.56	14	99.97	1
3.	1976476	KISTI-CREAM	19 Oct 2014 21:49	327.17	12	158.67	1
4.	4315196	Moratuwa	22 Jan 2022 22:55	285.23	18	93.01	1
5.	4586469	Hiroshima	19 Nov 2022 01:07	276.84	14	129.24	1

OUT to							
No.	ID	Site	When	Speed (Mbps)	Hops	RTT (ms)	Streams
1.	2313091	NECTEC	21 Oct 2015 00:12	738.24	8	5.41	1
2.	4316204	Moratuwa	24 Jan 2022 01:12	276.84			1
3.	4586854	Hiroshima	19 Nov 2022 12:36	260.06			1
4.	4584969	UiB_LHC	17 Nov 2022 09:30	251.67			1
5.	3946214	IPNL	26 Nov 2020 01:37	218.12	17	242.65	1

- Top Bandwidth IN at SUT

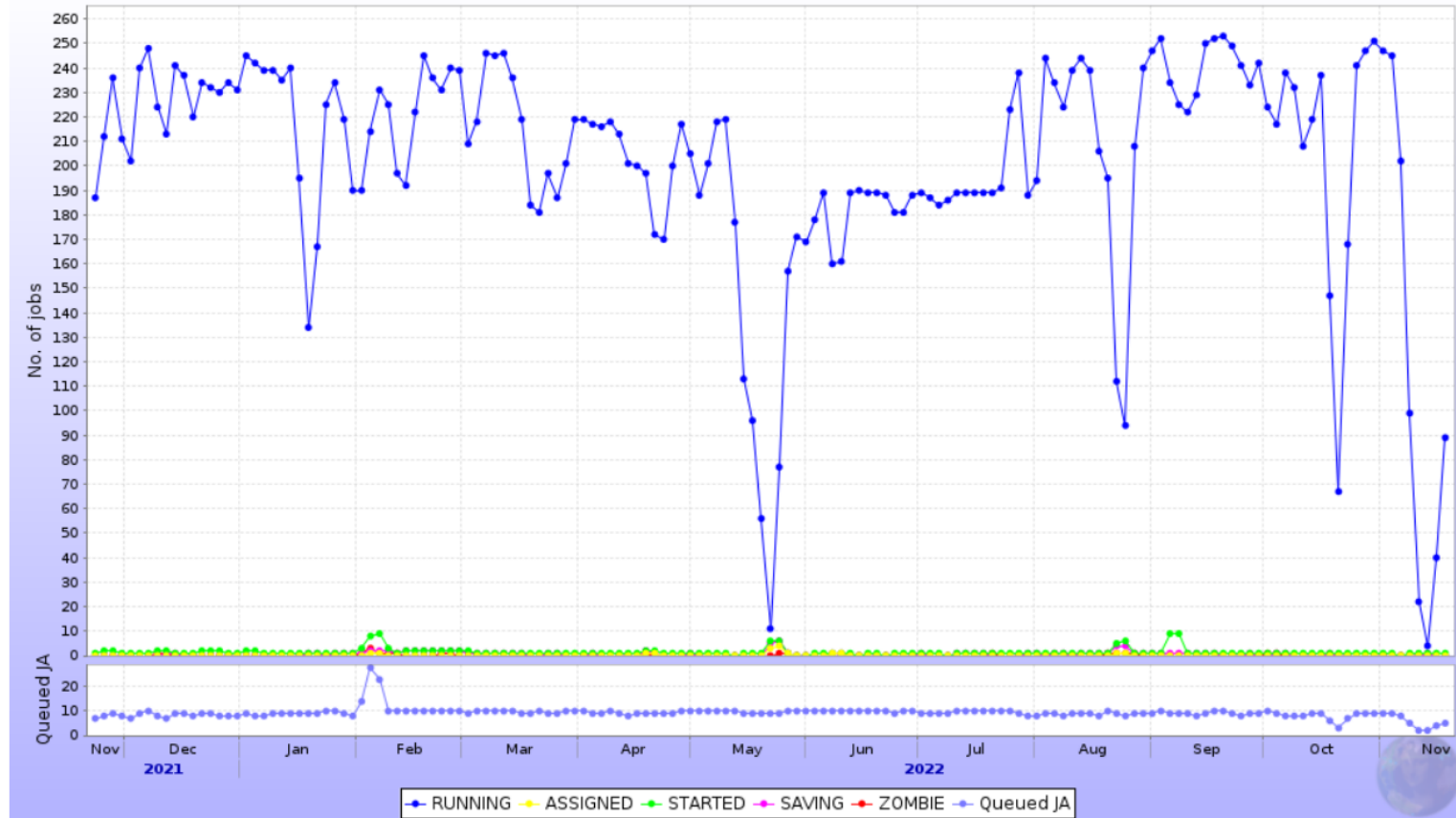
- 1) NECTEC
- 2) KISTI-GSDC
- 3) KISTI-CREAM
- 4) Moratuwa *
- 5) Hiroshima

- Top Bandwidth OUT at SUT

- 1) NECTEC
- 2) Moratuwa *
- 3) Hiroshima
- 4) UIB_LHC
- 5) IPNL

Active jobs at SUT since November 2021

Active jobs in SUT



ALICE reports

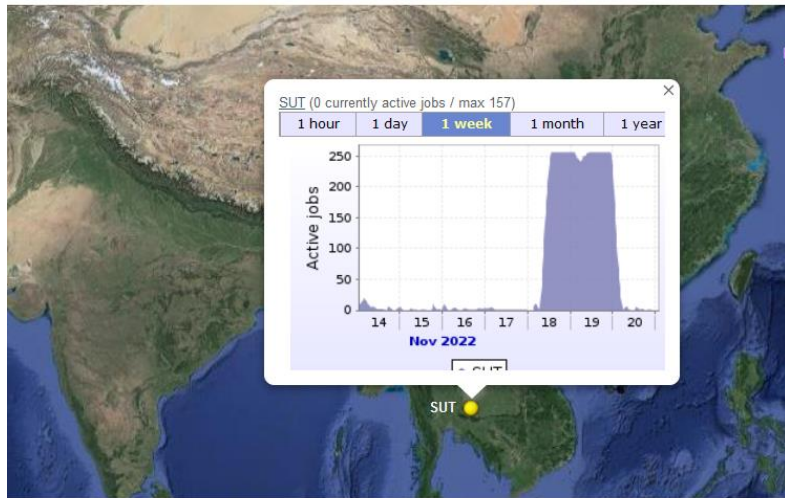
What is this about?

Report on ALICE sites' activity (21.05.2022 - 20.11.2022)

Site	Group	Tier	Pledged KSI2K	Delivered CPU	Wall	Occupancy Wall/Pledged	Missing KSI2K Pledged - Wall	Efficiency CPU/Wall	Job statistics		
Assigned	Completed	Efficiency									
139. SUT	Thailand	T2	-	-	-	-	-	-	46973	22694	48.31%

MonALISA Repository for ALICE

[LEGO Trains](#)
[Hyperloop](#)
[Administration Section](#)
[Alert XML Feed](#)
[JAIEn docs](#)



MonALISA Repository for ALICE

[My jobs](#)
[My home dir](#)
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[Administration Section](#)
[Alert XML Feed](#)
[JAIEn docs](#)
[MonaLisa GUI](#)

Select site: >

MonALISA information Version: 21.10.05 (JDK 12.0.1) **Service health** NTP: SYNC, offset: 0.016s
 Running on: alice.sut.ac.th
 Administrator: <Chinorat Kobdaj <kobdaj@sut.ac.th>>

Services status ClusterMonitor: n/a **Proxies status** AliEn proxy: OK (1 day, 23:24)
 AliEn: PackMan: n/a Delegated proxy: n/a (n/a)
 CE: n/a Proxy server: OK (54 days, 08:50)
 CE info: Proxy of the machine: OK (19:14)
 Max running jobs: 300
 Max queued jobs: 10

Current jobs status Assigned: n/a **Accounting** (last 24h) Success jobs: 55 (profile)
 Running: n/a Error jobs: 175 + 0 expired **Site averages** (last 24h) Active nodes: 104.7
 Saving: n/a kSI2k units: 0 / pledged Average kSI2k/core: 0

Storages status

Name	Status	Size	Used	Free	Usage	No of files	Type	ADD test
ALICE::SUT::SE	OK	103.3 TB	0%	103.3 TB	30.49 MB	23 B	FILE	FAIL

SUT Particle Server

Site for ALICE

T2-TH-SUT @computing center

- 256 CPU cores
- 896 GB of RAM
- 100 TB Storage
- Centos7
- HTcondor-CE version 5.1.1

Code Development

- Supermicro 32 cores 80TB Centos7, HT-Condor
- IBM 64 cores 128 GB RAM 8TB Centos 7, HT-Condor
- IBM 32 cores 128 GB RAM 8TB Ubuntu 22.04

Q&A