



Idea of Monitoring Slow Signal

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AI Data monitoring
1/28/2021

Checking ACNET data

Now we record a log on the TSD SharePoint

The screenshot shows a web browser window displaying the NuMI Target Hall Intranet Portal. The page title is "NuMI Target Hall Intranet Portal" and the URL is "web.fnal.gov/project/TargetSystems/NuMI/Intranet/SitePages/Community%20Home.aspx". The page features a navigation menu with links for "NuMI Intranet Portal Home", "ACNET Parameters", "System Categories", "Systems Description", "TSD SharePoint Home", "Documents", and "Site contents". The main content area displays a log of ACNET data, starting with a message about the portal's operation and maintenance in December 2020. Below this, there is a table with columns for date and description. The table contains 15 rows of data, including entries for January 2021 and December 2020. At the bottom of the page, there is a "Recent" section with a "What's hot" link and a "Unanswered questions" link. A message at the bottom states: "There are no items to show in this view of the 'Discussions List' discussion board."

NuMI Intranet Portal Home

This is the NuMI Intranet Portal for the operation and maintenance of NuMI beam line, target hall and support systems, starting in December 2020.

AD Elog: NuMI Beam Operations

* is on-going item

Jan. 26, 2021	E:THDFP2 and G:WINDIR linked (?) , Katsuya Yonehara
Jan. 26, 2021	MI/RR beam tuning still go on , Katsuya Yonehara
Jan. 26, 2021	E:TPCT28 and E:TPCH29 jump , Katsuya Yonehara
Jan. 25, 2021	E:CHMPBTC level low , Katsuya Yonehara, Paul confirmed that the level monitor is broken.
Jan. 25, 2021	E:MM1XAV and E:MM1YAV moved due to Laser notcher down , Katsuya Yonehara
Jan. 22, 2021	Planned beam downtime in week of 1/18-1/23 , Katsuya Yonehara
Jan. 21, 2021	E:MM1PD pedestal issue , Katsuya Yonehara
Jan. 20, 2021	E:MM1COR, E:MM2COR, E:MM3COR drift since January , Katsuya Yonehara
*Jan. 19, 2021	E:MMA1PD pedestal signal readout , Katsuya Yonehara, Athula Wickremasinghe
*Jan. 15, 2021	E:VPTGT, E:HPTGT, E:VP121, E:HP121 gain change , Katsuya Yonehara, Athula Wickremasinghe Katsuya added a slide which shows that the split BPM depends on the beam intensity (01/26/21).
Jan. 14, 2021	EAV Stack Release / Munters #4 & #5 Plots (Internal Access) , Jim Hylen, Katsuya Yonehara
Jan. 6, 2021	E:H1RARP & E:H1REXH Ar flow down , Katsuya Yonehara, Des, Kris Anderson
Jan. 2, 2021	E:MM1XAV jump , Katsuya Yonehara, Athula Wickremasinghe
Dec. 15, 2020	E:CHMH2O2 reached zero , Katsuya Yonehara
Dec. 14, 2020	Summary of beam scan 1, 2 , Katsuya Yonehara
Dec. 14, 2020	Hadron monitor gain change , Katsuya Yonehara
Dec. 14, 2020	E:VPTGT & E:HPTGT offset change , Katsuya Yonehara
Dec. 14, 2020	E:MM1COR, E:MM2COR, E:MM3COR 50 % gain change due to bad gas , Katsuya Yonehara

Recent [What's hot](#) [Unanswered questions](#) ...

There are no items to show in this view of the "Discussions List" discussion board.

Example

web.fnal.gov/project/TargetSystems/NuMI/Intranet/_layouts/15/WopiFrame.aspx?sourcedoc=%7bADD3ADAD-916B-4D67-8626-C9761EEFE877%7d&file=tphumid.pptx&...

PowerPoint Online

NuMI Target Hall Intranet Portal > TP Humid sensor 01-26-21

tphumid

Start Slide Show Print to PDF Share with people Comments

E:TPCT28 and E:TPCH29 jumped 1/26/21

- Found this incident in the daily check.
- E:TPCT28 and E:TPCH29 jumped at 0:20 last night.
- Probably E:TPCT26 and E:TPCH27 also behave strange?
- Will contact the expert (Kris, George??)

- E:TPCT28 and E:TPCH29 jumped
- E:TPCH29 is a constant after a big jump

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NOTES

Characteristic of slow signal

- “Slow” signal is monitoring infrastructure
 - Temperatures, pressures, flows, humidities, impurities, level gauges, currents, voltages, resistivities, radiation levels, on/off (binary)
 - Wide time range (every second to hours)
- Sensor often broken by radiation, humidity, temperature
- Need to look at multiple-signal to assess whether a strange signal is due to some incident or just broken sensor

Strategy to build slow monitor system

- Plan to build a small monitor system
- Set up data server
 - thudpucker.fnal.gov
- Group data based on their correlation
 - E:BAFT1-3, E:TGTPWR
 - E:MGSMPD[104-106], E:MM1-3GPR
 - G:RD1228-1230, E:TGTPWR
 - G:RD1226, E:THDFP2, G:WINDSP, G:WINDIR
 - E:CHMPBTC, E:CHMH2O2, E:CHMLVL, E:CHMSTS, E:CHMFLO, E:CHMWHR
- Make AI script to monitor them
- Increase the number of groups and integrate

Progress of TSD monitor Linux

- Michael Kriss is the system manager of TSD Linux
- He suggests us to use thudpucker
 - I guess that the machine name came from Michael...
- He also suggests us to apply a container
 - No machine dependence
 - Easy to maintain
 - Add/remove apps in container for version control
 - It becomes more standard way
 - Worth to learn, I guess
- He only created an account for Katsuya (me), I should test the machine by myself...
 - I installed a Docker Anaconda3
 - I guess I know more about Docker
- He created accounts for Athula and Sudeshna this morning
 - We will fix a minor issue (how to save the container???)
 - We will ask Michael to open more accounts for colleagues