



Muons report

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Proton PMG / AEM

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<https://indico.fnal.gov/event/65695>

Preamble

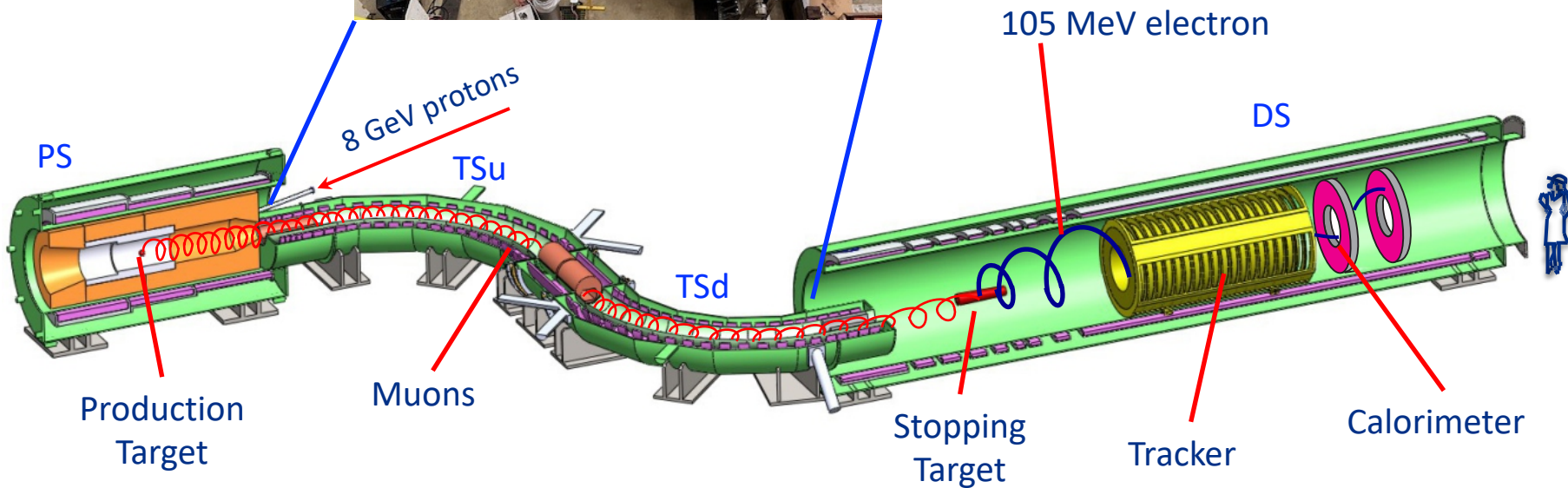
- The Muons report covers Muon g-2 and Mu2e
 - Muon g-2 has finished collecting data, analysis ongoing
 - Mu2e is in construction phase
- We very much look forward to the days when we can report on the status of data collection with Mu2e...
- ... in the meantime, at the Proton PMG/AEM we will continue to give reports of the status of Mu2e construction and try to give some sense of why we concentrate on certain details...

Solenoids and cryo

- Upstream Transport Solenoid (TSu) and downstream TS (TSd) are in the building
 - Interconnect work ongoing
 - See next slides
- Cryo infrastructure underway
 - Access platforms being installed
 - Quench protection racks installed
 - LN2 refurbishments ongoing
 - Full Flow Purifier expected soon
- Soon: Production Solenoid (PS) and then Detector Solenoid (DS)



Recall: Mu2e physics process

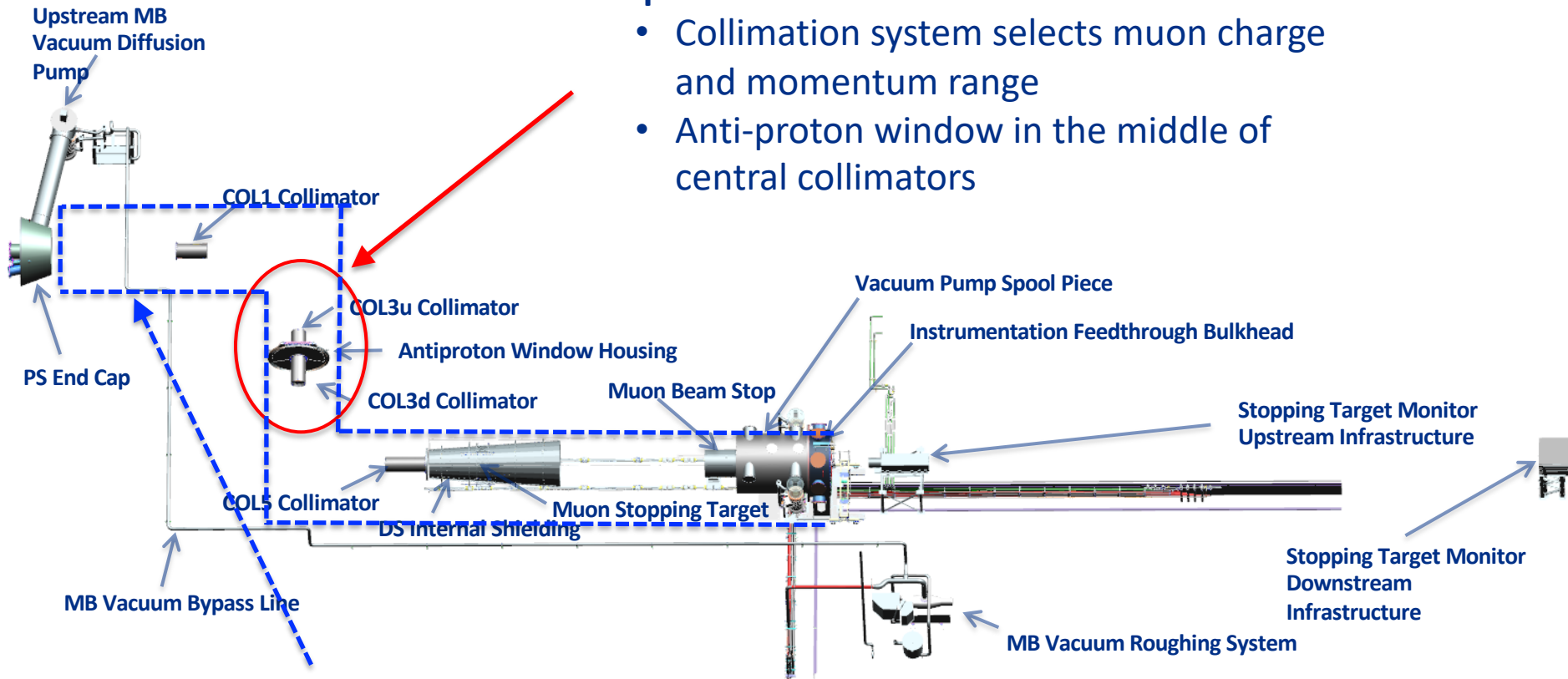


Mu2e solenoids house Muon Beamline

Modified from G. Ginther
(mu2e-docdb-49052)

Transport Solenoid

- Collimation system selects muon charge and momentum range
- Anti-proton window in the middle of central collimators



(Artist terrible rendition of solenoids)

Mechanical interconnect between TSu and TSd...

... must satisfy [GR understanding]...

- Robustness (magnetic forces)
- Space (magnetic field uniformity)
- Vacuum (target lifetime)
- Rotatable collimator (muon sign-selection)



- Have developed a scheme to allow insertion of the anti-proton window and rotation of the collimators
 - Tests and validation ongoing
- This means we are nearly ready to make the connections of the solenoids to the cryogenic transfer line
 - Note: when we make this connection to the transfer line, this means the final location of the solenoids are fixed

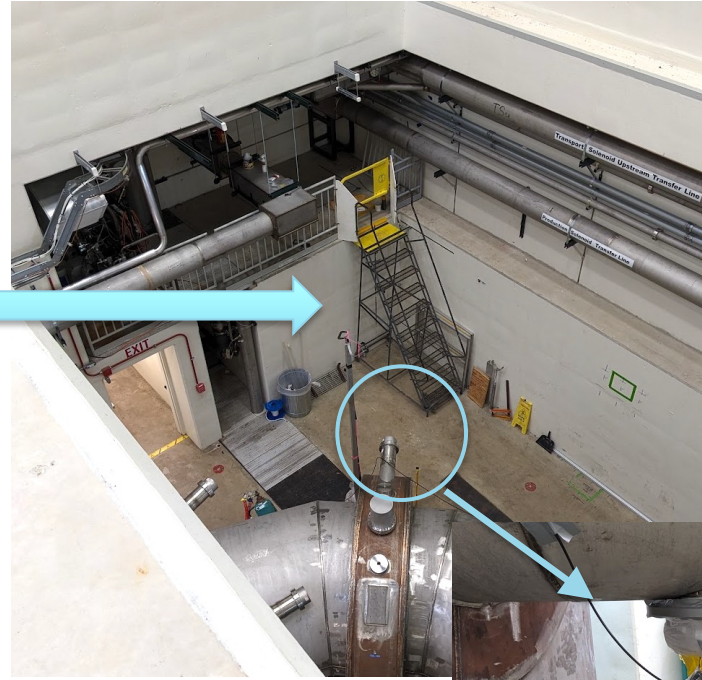


Removed blocks from pipe chase alcove...

Before



Now



... allowing access to the TSd connections
to the cryogenic transfer line



Other work ongoing

- **Completed** installation of detector cables + optical fibers
 - Soon: calorimeter to arrive, then tracker
- 08-12 July: Global Run #2
 - Coherent fast DAQ control established with 3 (of 5) subsystems
 - DAQ Nodes transitioned to AL9
 - Global Run #3 in ~Oct
- Muon Beam Stop arrived at Mu2e
 - First component of detector train at the building
 - Train includes Stopping Target, Tracker, Calorimeter, MBS



Backup

Calendar since May Proton PMG/AEM

	S	M	T	W	T	F	S
May	28	29	30	1	★	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	Low tempo					1
June	2	3	4	5	✗	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	Mu2e Project Review			28	29
	30	1	2	3	4	5	6

	S	M	T	W	T	F	S
July	30	Low tempo ✗					6
	7	Global Run #2					8
	14	15	IF Ops review			19	20
	21	g-2 analysis mtg					27
	28	29	30	31	★	2	3
Aug	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	LOMOP					31
	1	LOMOP					7