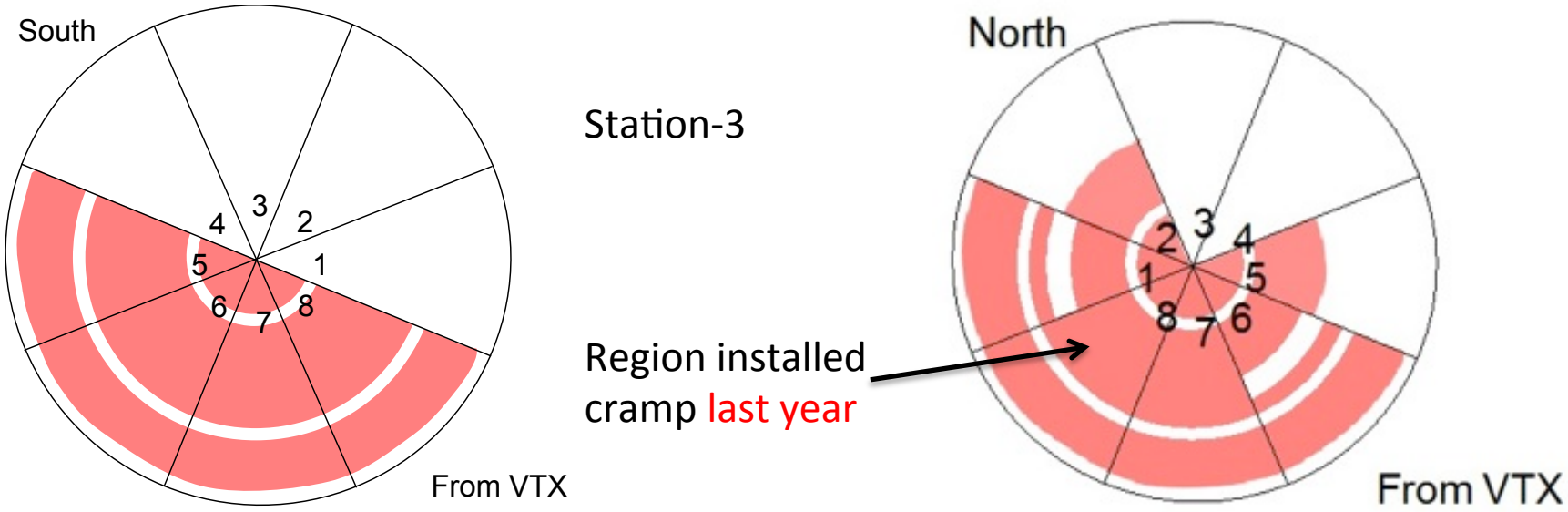
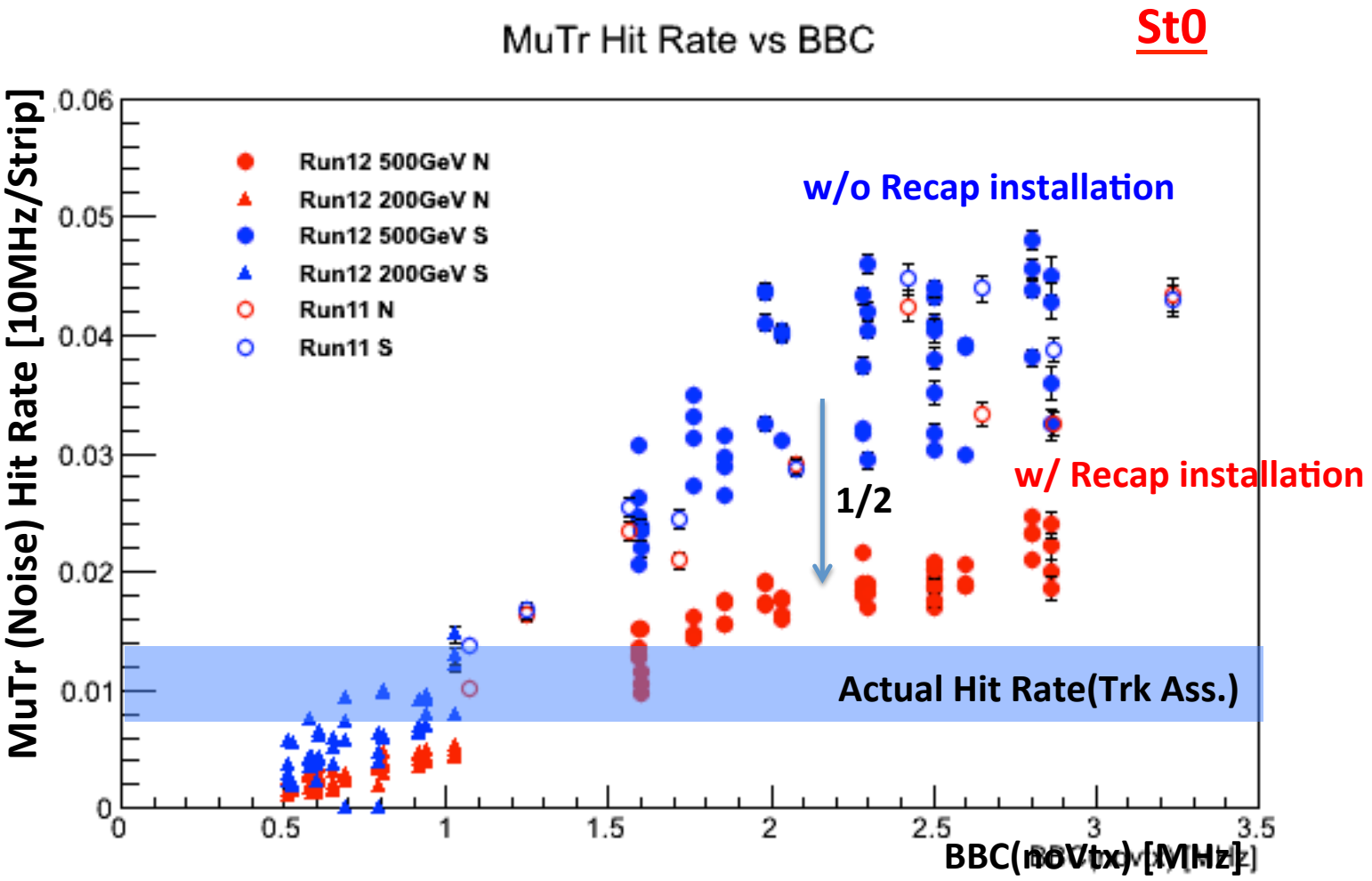
MuTr Recapacitation

MuTr Cross Talk Status

- ☑ Recapacitation to South Station-1 Gap2, Gap3
- ☑ Anode Terminator Install to South St-2 Top Octants
- ☐ Cramp Installation to South and North Station-3 Top Octants



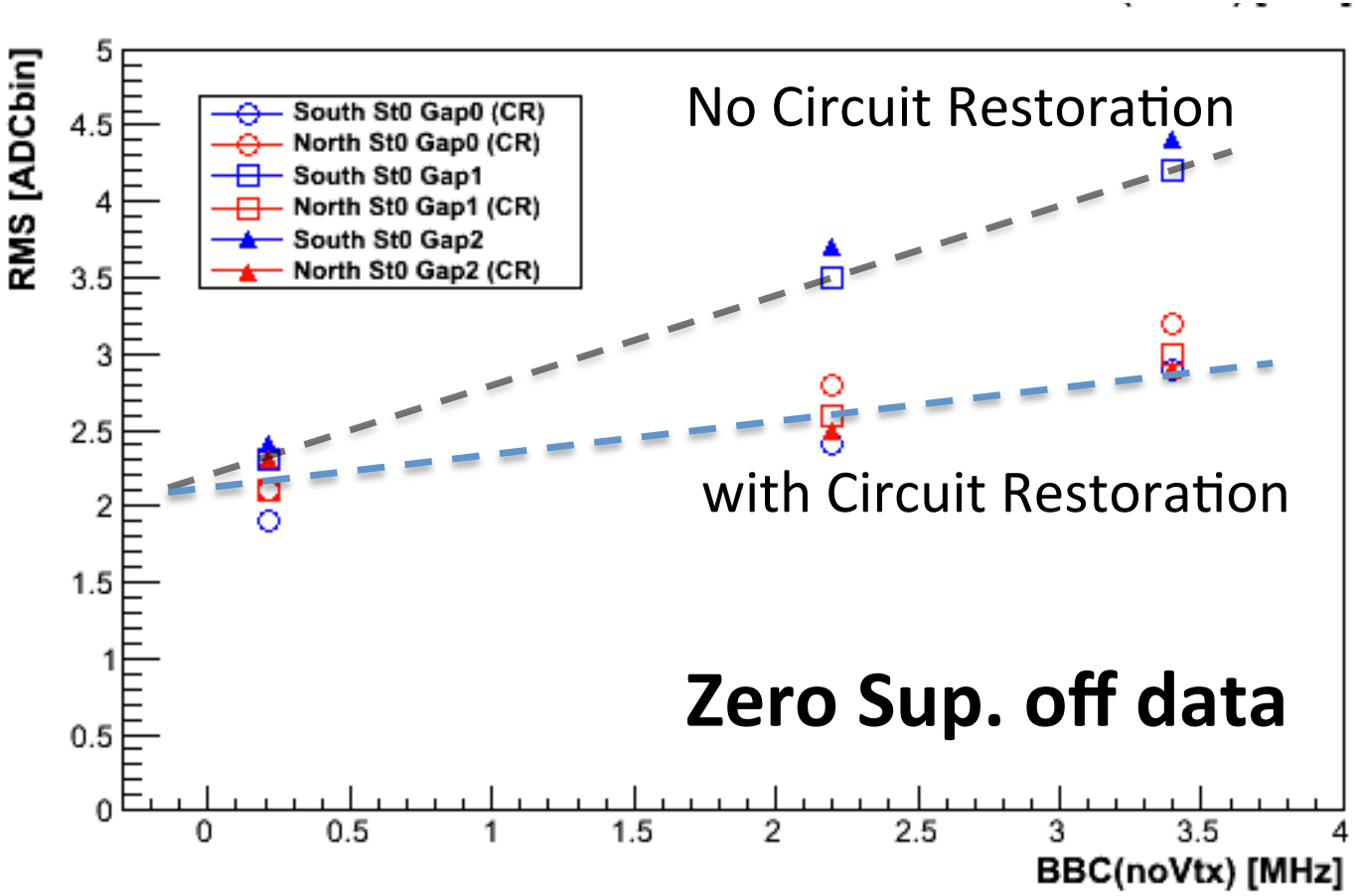
- BBC rate dependence of MuTr Performance



MuTr Performance, like resolution, is kept in high rate circumstances?

Study made by Y. Imazu

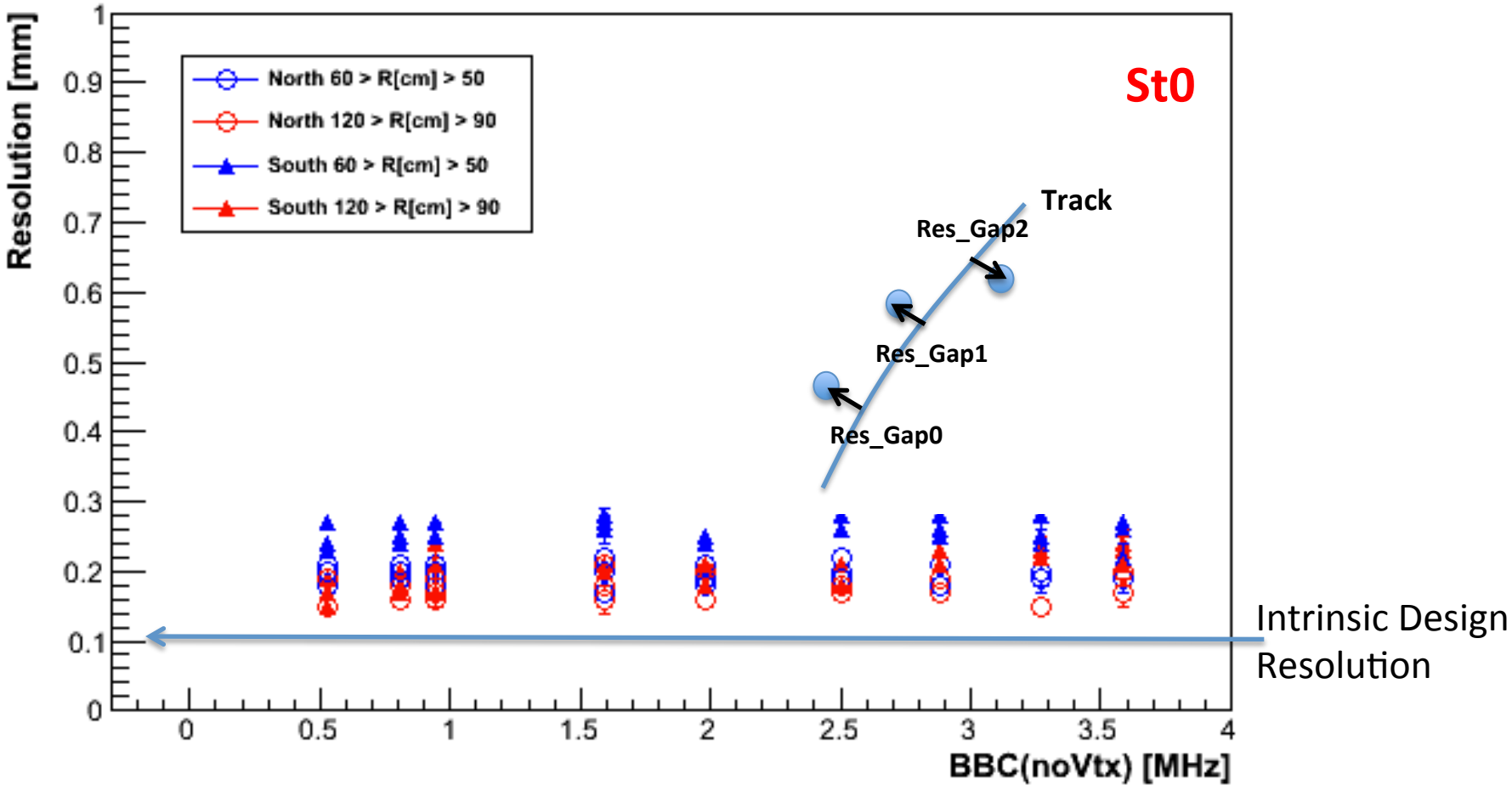
Pedestal RMS Values



Resolution $\propto$ RMS

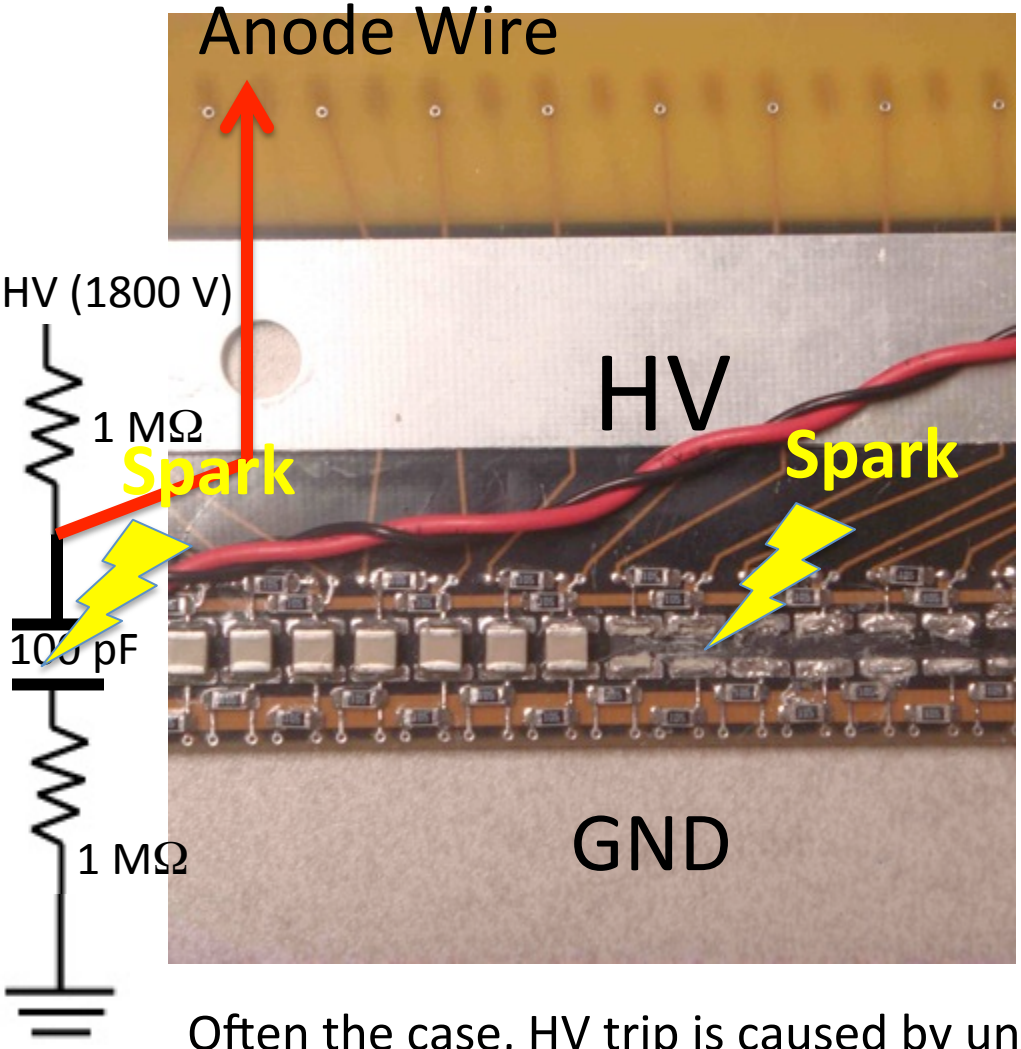
Study made by Y. Imazu

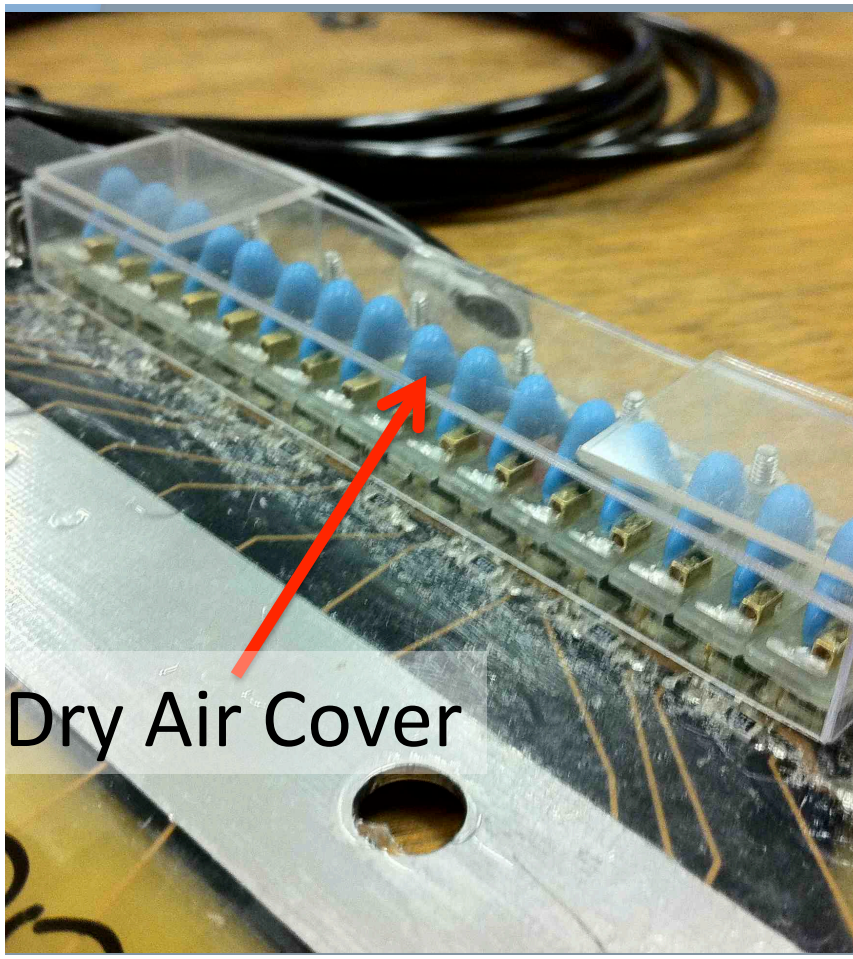
Resolution vs. BBC Rate



No indication of BBC rate dependent resolution.
Something else (alignment, Charge Sharing Modeling, etc..) drive the resolution?

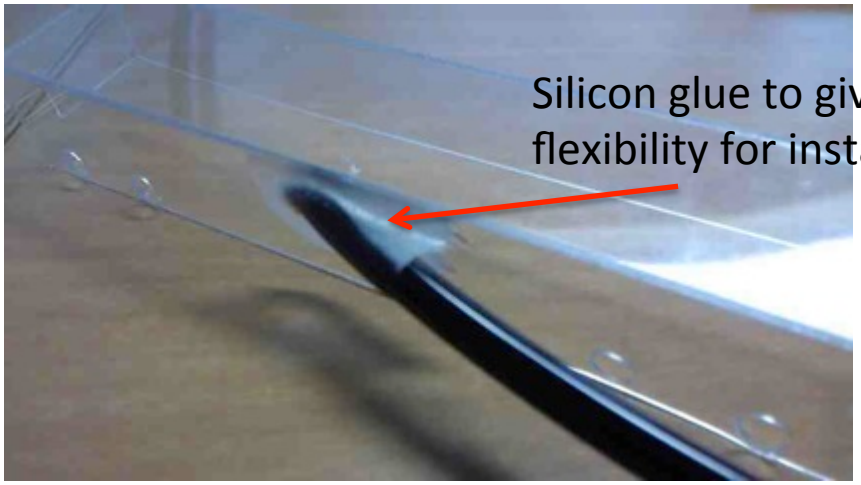
Cause of MuTr HV Trip

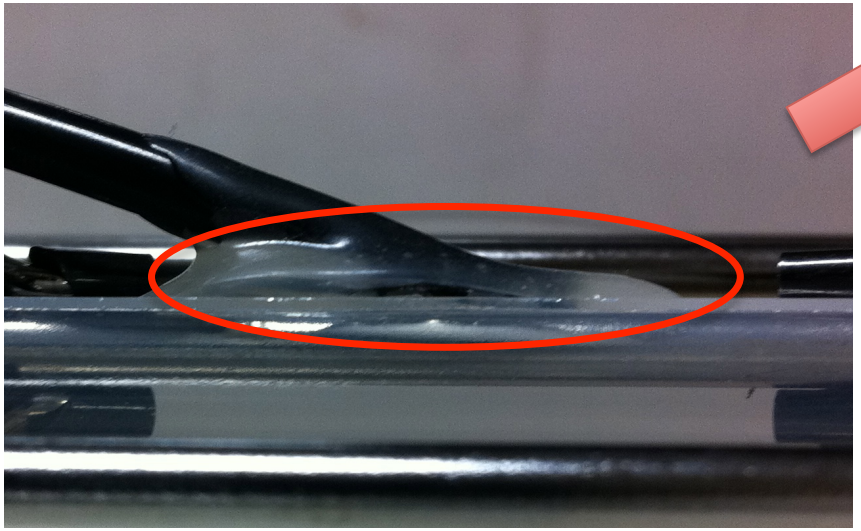




Often the case, HV trip is caused by unwanted ground path at the capacitor or its footprint. Installing dry air cover on top of clamp to prevent moisture.

Issues : Fragile Dry Air Tube Joints





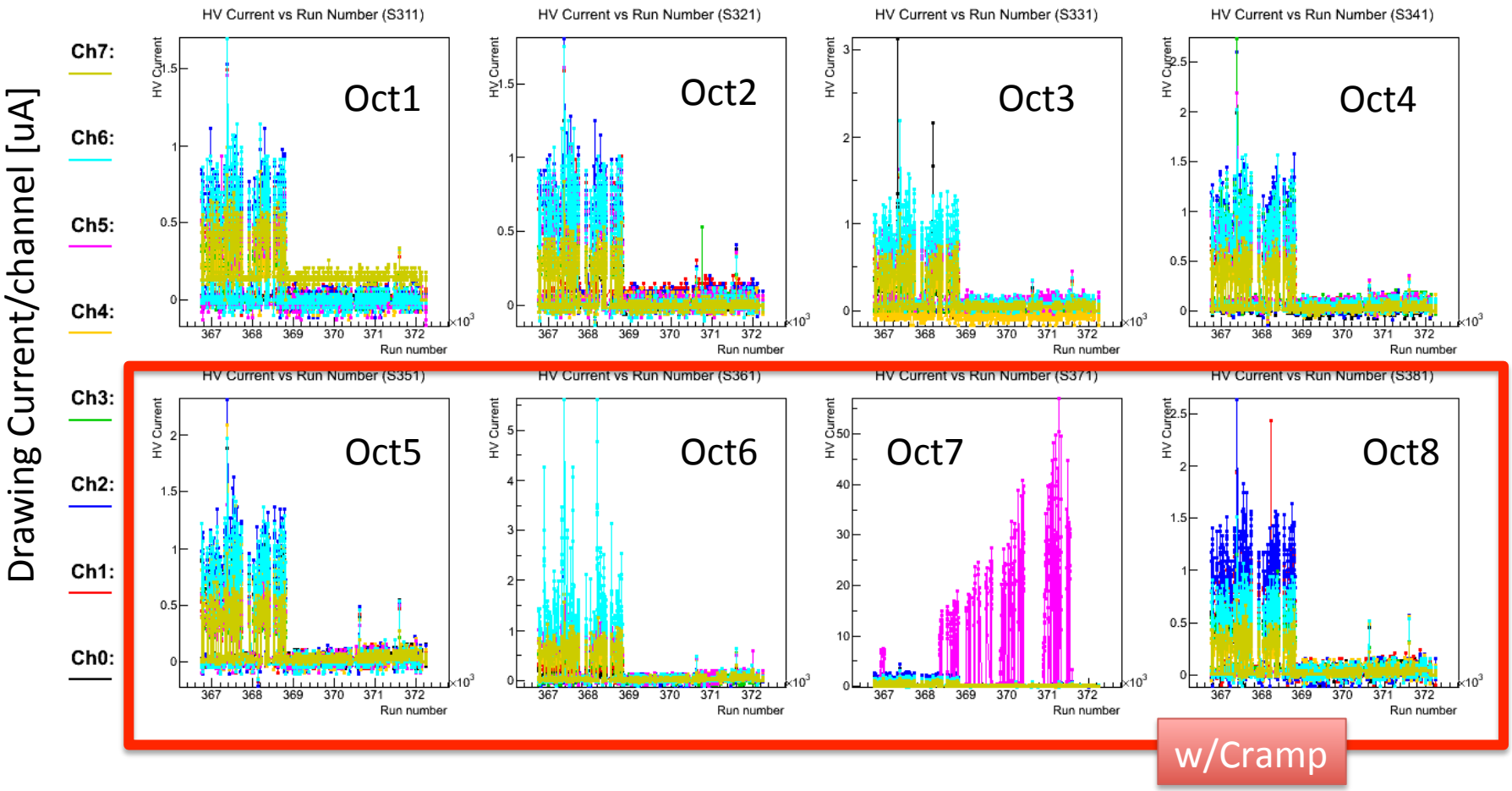
The glue gets ripped off from the cover if the tube is under stress for a while.
Need to supplement the glue.

Solution

- Add more glue on it to gain extra binding strength.
- Tested 3 different glues at test bench though, couldn’t get to the point of optimization. We ran out of time.

MuTr HV Dark Current

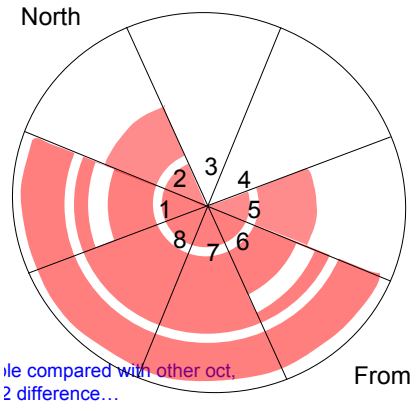
South Station3



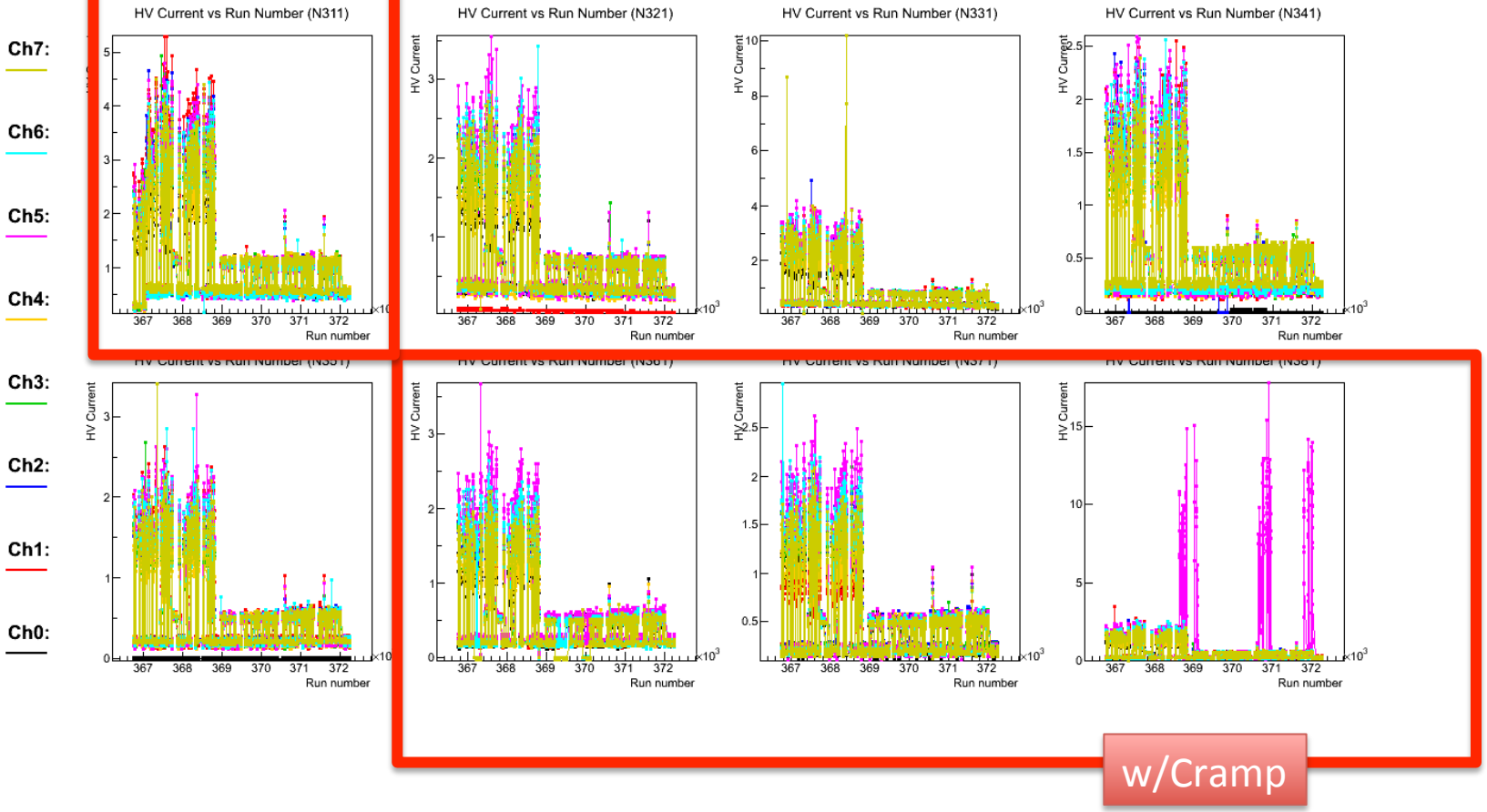
Cramp didn't cause HV problem throughout Run12

MuTr HV Dark Current

North Station3



le compared with other oct,
2 difference…



Acceptance (HV)

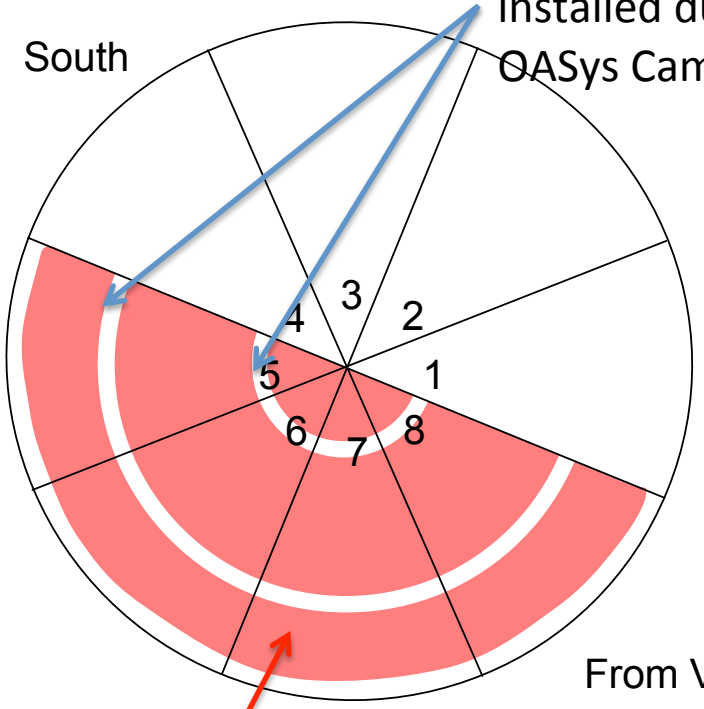
Jun 20 08:52:14 SOUTH MUON TRACKER HV SUMMARY

S111	S112	S113	S121	S122	S123	S131	S132	S133	S141	S142	S143
1890.9	1880.6	1891.4	1869.9	1860.8	1869.1	1870.1	1849.4	1860.1	1889.8	1879.8	1891.0
-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--
-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--
0.16	0.21	0.19	0.09	0.06	0.27	-0.03	0.25	0.09	0.11	0.11	0.17
0.18	0.27	0.18	0.16	0.11	0.24	0.23	0.50	0.14	0.06	0.13	0.14
0.15	0.16	0.20	0.07	0.14	0.21	0.14	0.26	0.10	0.13	0.12	0.16
0.09	0.19	0.05	0.02	0.01	0.14	0.11	0.33	0.09	0.10	0.09	-.--
0.09	0.08	0.11	0.07	0.10	0.14	0.11	0.23	0.09	0.16	0.08	0.14
0.12	0.10	0.07	0.09	0.12	0.13	0.04	0.32	0.10	0.05	0.11	0.08

S151	S152	S153	S161	S162	S163	S171	S172	S173	S181	S182	S183
1870.6	1891.0	1870.6	1853.5	1858.9	1889.7	1899.6	1869.9	1871.9	1881.5	1879.6	1890.6
-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--
-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--	-.--
0.00	0.08	0.16	0.18	0.21	0.21	0.08	0.18	0.17	0.12	0.14	0.27
0.19	0.21	0.08	0.23	0.13	0.28	0.16	0.25	0.18	0.14	0.22	0.25
0.12	0.17	0.13	0.21	0.26	0.23	0.14	0.13	0.18	0.14	0.12	0.08
0.12	0.13	0.10	0.21	0.10	0.09	0.15	0.10	0.07	0.05	0.09	0.17
0.14	0.07	0.13	0.18	0.17	0.06	0.11	0.09	0.08	0.10	0.15	0.13
0.09	0.08	0.15	0.15	0.13	0.13	0.10	0.04	0.06	0.09	0.10	0.07

S211	S213	S222	S231	S233	S242	S251	S253	S262	S271	S273	S282
1924.1	1914.3	1915.2	1906.0	1914.5	1924.4	1924.7	1875.4	1895.9	1895.4	1895.9	1906.1
0.17	-0.55	0.11	0.28	0.21	0.31	0.14	0.08	0.01	0.18	0.06	0.25
0.17	0.18	0.13	0.28	0.40	0.29	0.15	0.08	0.10	0.15	0.06	0.07
0.25	-0.14	0.23	0.33	0.36	0.43	0.27	0.14	0.13	0.16	0.15	0.21
0.35	0.07	0.16	0.40	0.72	0.39	0.15	0.16	0.14	0.12	0.13	0.14
0.11	0.05	0.06	0.24	0.35	0.30	0.17	0.08	0.10	0.08	0.12	0.16
0.13	0.19	0.10	0.32	0.29	0.39	0.17	0.06	0.14	0.11	0.07	0.13
0.24	0.11	0.10	0.26	0.34	0.38	0.25	0.09	0.12	0.12	0.08	0.12
0.18	0.04	0.10	0.21	0.38	0.23	0.12	0.18	0.11	-.--	0.09	0.15

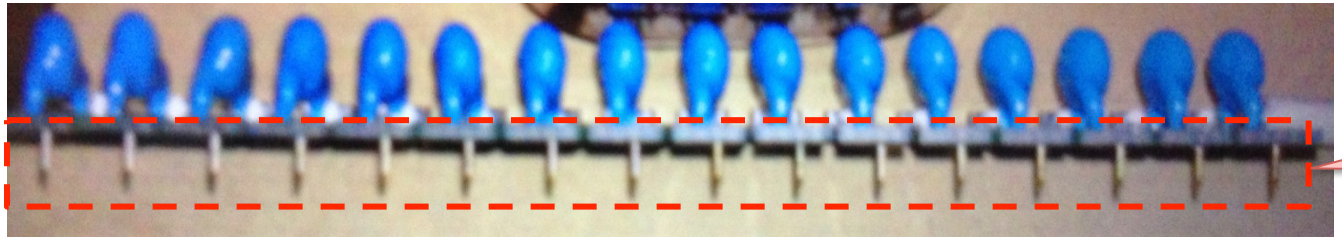
S311	S321	S331	S341	S351	S361	S371	S381
1949.3	1950.7	1940.8	1919.6	1910.4	1950.6	1941.1	1949.7
-.--	0.09	0.09	0.24	0.65	0.15	0.47	0.55
0.21	0.25	0.26	0.32	0.47	0.21	0.29	0.63
0.25	0.23	-.--	0.35	0.67	0.34	0.70	0.83
0.08	0.13	0.27	0.30	0.38	0.24	0.29	0.57
0.04	0.12	0.11	0.27	0.70	0.44	0.36	0.19
0.12	0.25	0.31	0.44	0.42	0.50	-.--	-.--
0.20	0.25	0.35	0.34	0.77	0.90	0.44	0.70
0.26	0.11	0.20	0.24	0.41	0.36	0.25	0.35

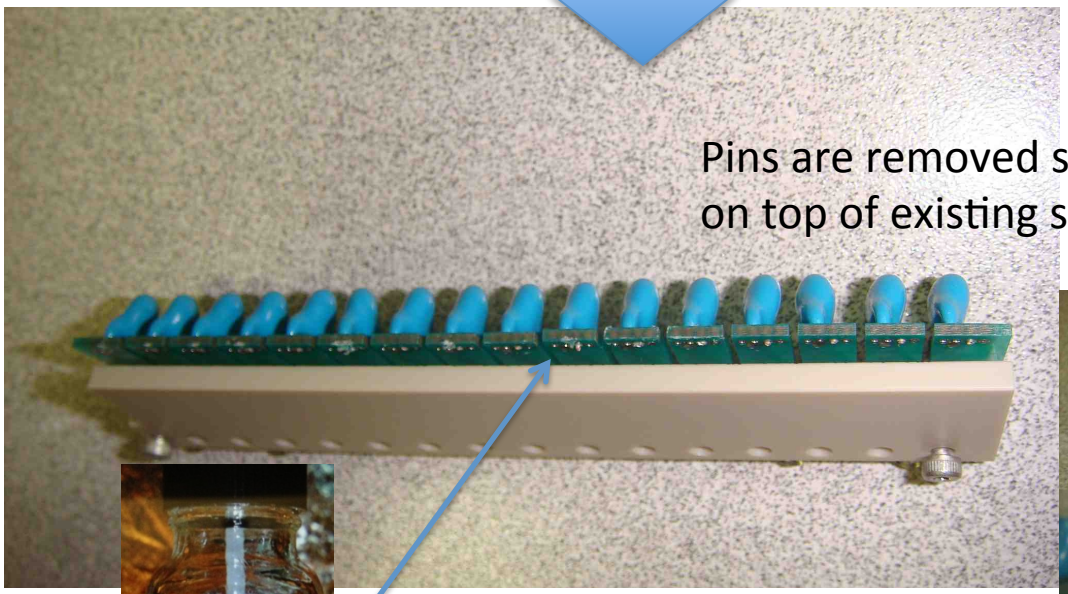


Region installed cramp last year

End of Run12

Dry Air Cover Install Preparation

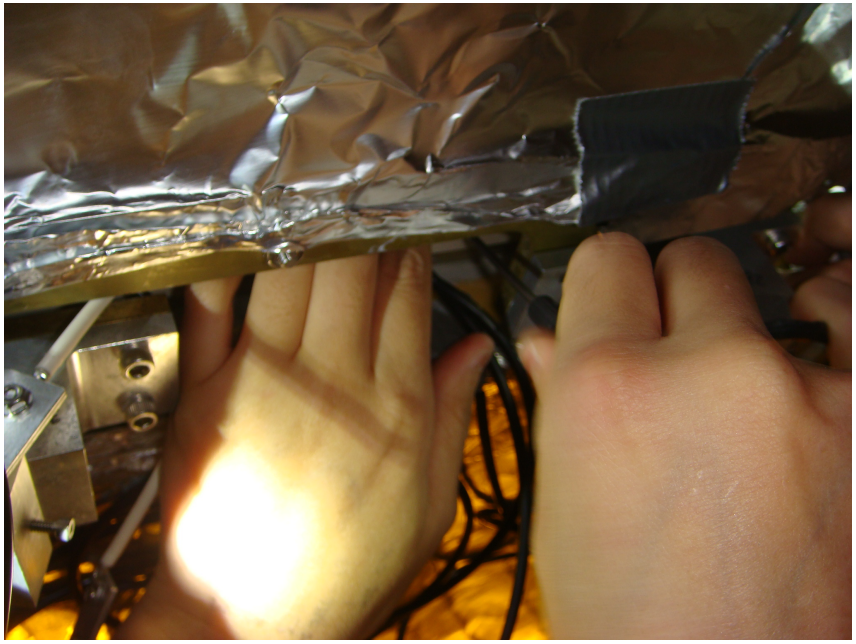


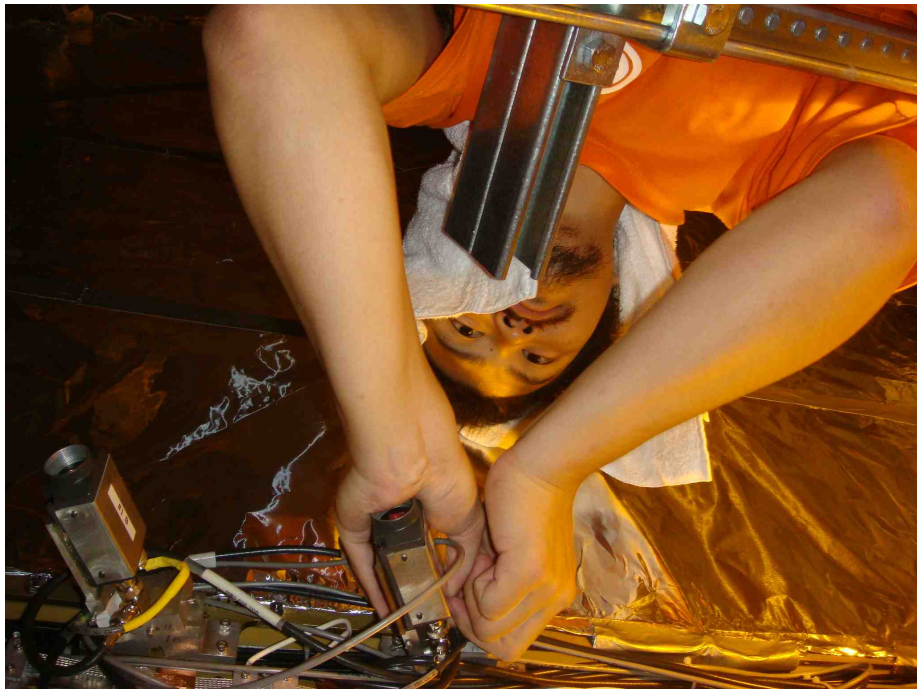


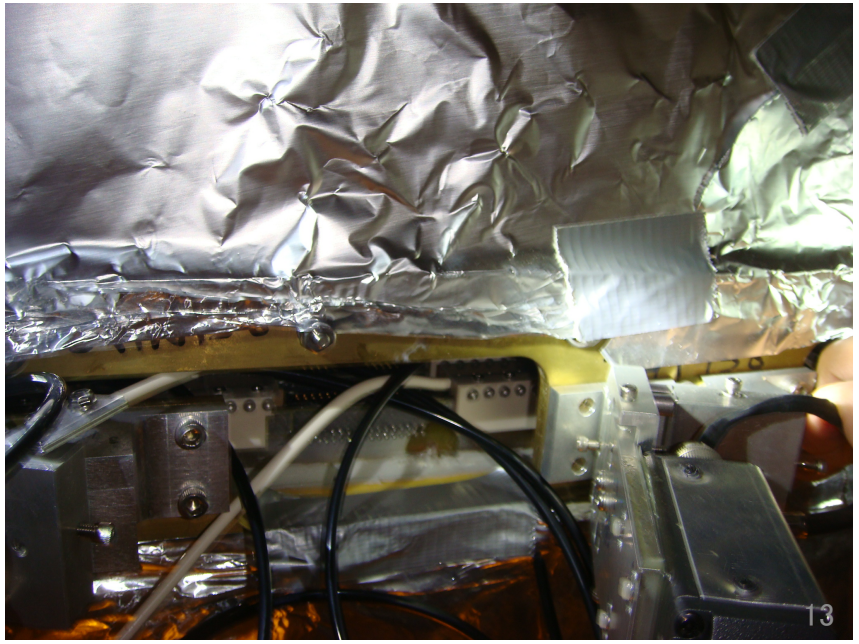
Pins are removed so that the clamp can be mounted on top of existing surface mount capacitors

Confirmal Coating aferword.

Behind OASys

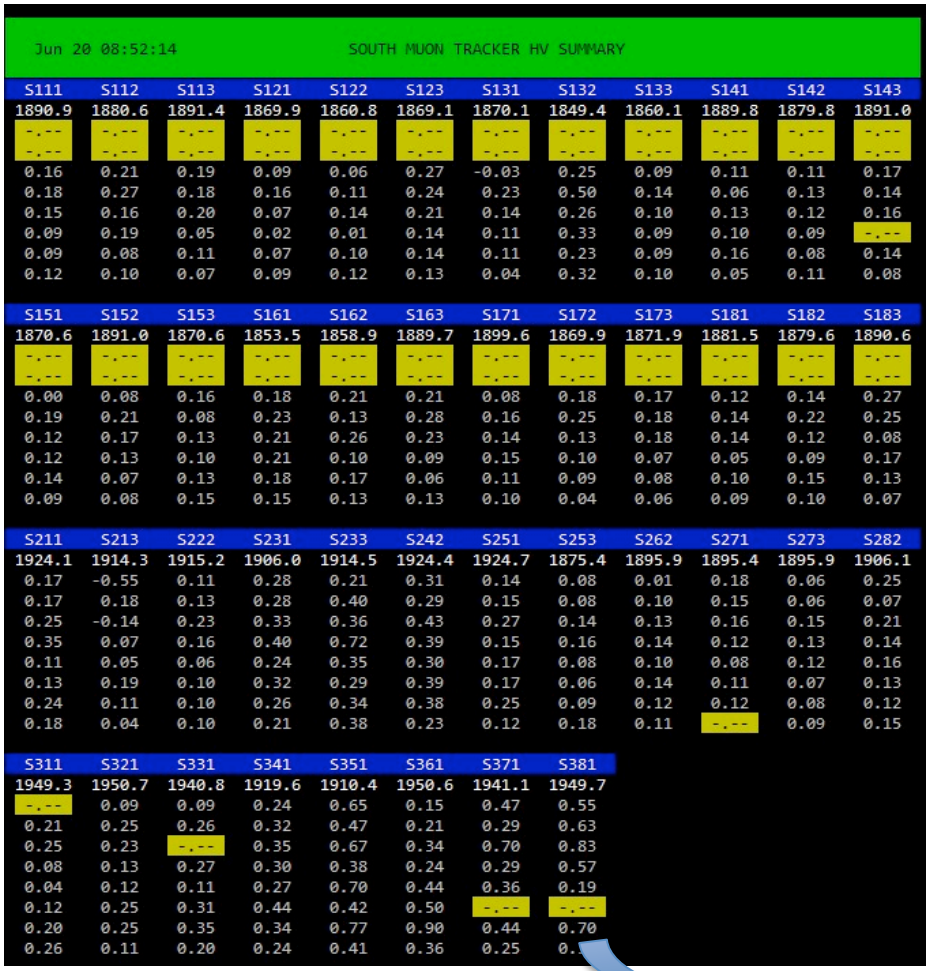


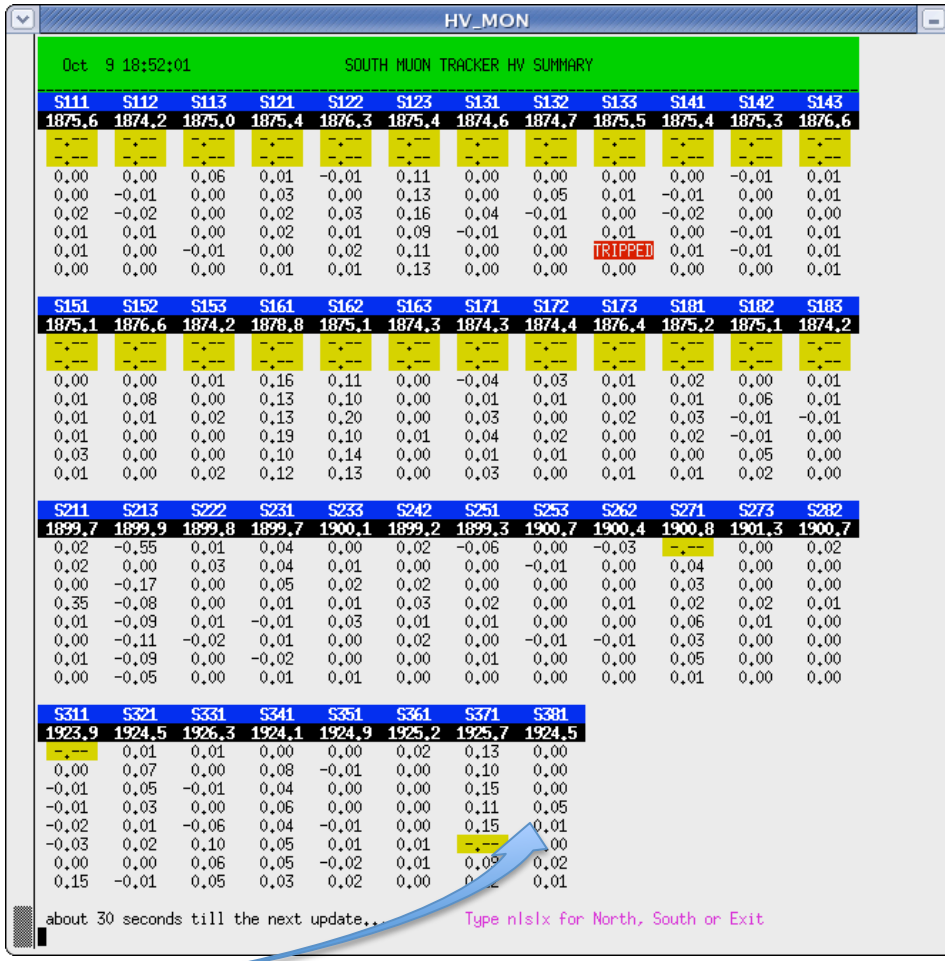




Completed installation not only Oct1,2,3,4 but also Oct5,6,7,8 as well.
Slows down installation significantly.
Can we complete North as well?

Acceptance (HV)



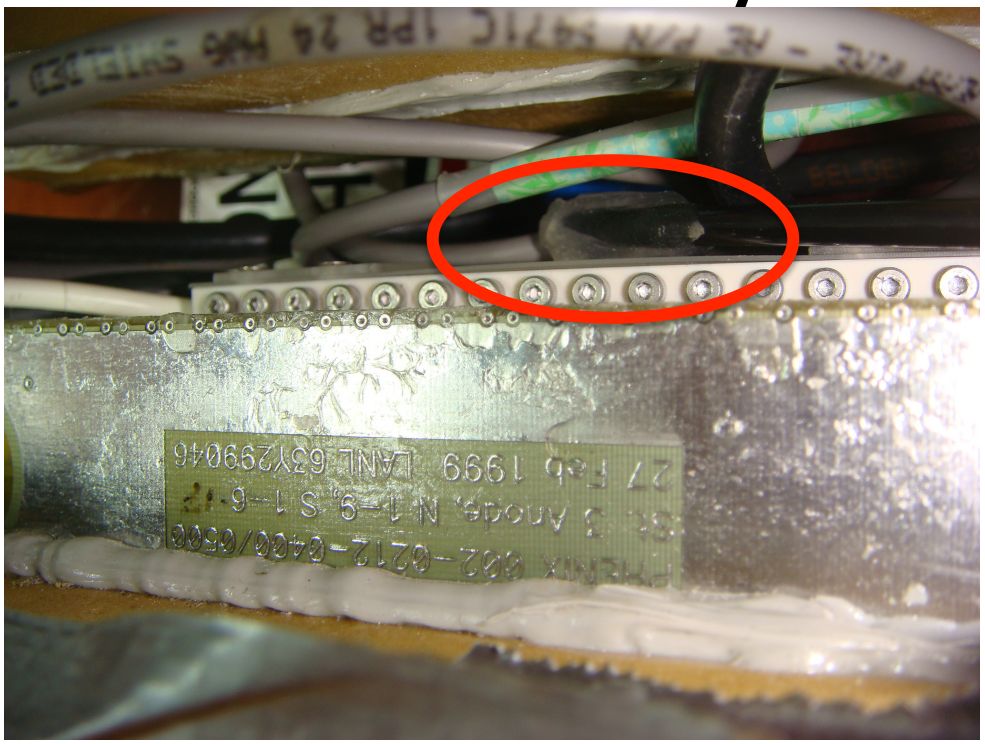


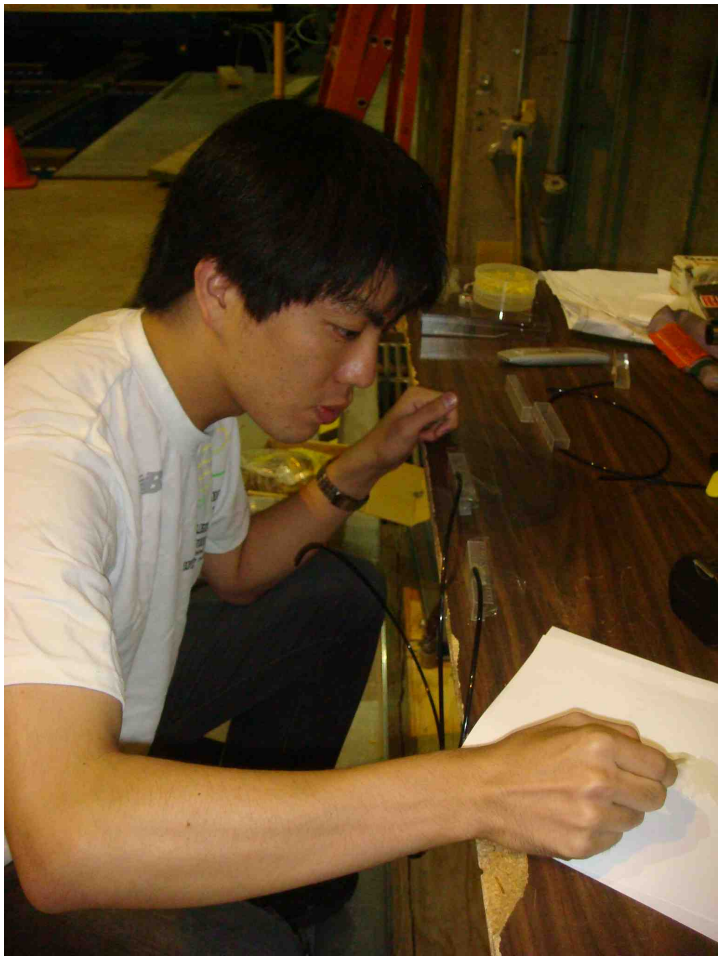
End of Run12

Cramp Install Certainly Help

Yesterday

Broken Dry Air Tube Joints





Found some dry air tubes are detached from the cover. The joint is found to be very weak against the continuous stress. Tried to run dry air tubes as less tension at joint as possible.
Repair work is ongoing on site. (Nobu, Shoichiro)