



Update on Calorimeter Calibrations

Mr. Muhammad Junaid
Ph.D. Student
Department of Physics,
University of Regina, Canada

- Finished the HMS CAL calibrations for data from 2021 and 2022 run period.
- Cuts Applied:

Cuts
$H.cer.npeSum > 7$
$-8 < H.gtr.dp < +8$

- Finished the SHMS CAL calibrations for data from 2021 and 2022 run period (done it for negative polarity):
- Cuts Applied:

Cuts
$P.hgcer.npeSum > 7$
$-10 < H.gtr.dp < +20$

Pion-LT Run Period 2021

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 9.177 GeV, Target: LH+, Q2=1.60 W=3.08 x=0.16	11829, 11890	HMS
BE: 9.177 GeV, Target: LD+, Q2=1.60 W=3.08 x=0.16	11910, 11918, 11933, 11952	HMS
BE: 9.177 GeV, Target: LD-, Q2=1.60 W=3.08 x=0.16	11952 / 12022, 12030, 12045,	HMS, SHMS
BE: 9.177 GeV, Target: LH+, Q2=6.00 W=3.19 x=0.39	12262, 12288, 12358, 12445	HMS
BE: 9.177 GeV, Target: LH+, Q2=8.50 W=2.79 x=0.55	12445, 12747	HMS

Pion-LT Run Period 2021

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 5.986 GeV, Target: LH+, Q2=3.85 W=2.02 x=0.55	13063	HMS
BE: 9.876 GeV, Target: LH+, Q2=1.60 W=3.08 x=0.16	13108, 13186, 13191, 13197	HMS
BE: 9.876 GeV, Target: LH+, Q2=3.85 W=3.07 x=0.31	13197, 13209	HMS
BE: 9.876 GeV, Target: LH+, Q2=5.00 W=2.95 x=0.39	13209, 13239, 13276	HMS
BE: 9.876 GeV, Target: LH+, Q2=6.00 W=3.19 x=0.39	13309	HMS
BE: 7.937 GeV, Target: LD-, Q2=6.00 W=2.40 x=0.55	13448, 14736 / 13448, 13531, 14754,	HMS, SHMS
BE: 7.937 GeV, Target: LD-, Q2=3.85 W=3.07 x=0.31	13589, 14684, 14723 / 13589, 13712, 13750, 13787, 13821, 14628, 14726	HMS, SHMS

Pion-LT Run Period 2021

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 7.937 GeV, Target: LH+, Q2=6.00 W=2.40 x=0.55	13950, 13983, 14045	HMS
BE: 7.937 GeV, Target: LD+, Q2=6.00 W=2.40 x=0.55	13921, 14045	HMS
BE: 7.937 GeV, Target: LH+, Q2=2.45 W=3.20 x=0.21	14545, 14560	HMS
BE: 7.937 GeV, Target: LH+, Q2=3.85 W=3.07 x=0.31	14208, 14216, 14233, 14244, 14303	HMS
BE: 7.937 GeV, Target: LD+, Q2=3.85 W=3.07 x=0.31	14257, 14265, 14280, 14287, 14291, 14303, 14375, 14379	HMS
BE: 7.937 GeV, Target: LH+, Q2=5.00 W=2.95 x=0.39	14379, 14468	HMS

Pion-LT Run Period 2022

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 10.549 GeV, Target: LH+, Q2=3.85 W=2.02 x=0.54	14986, 15003, 15013	HMS
BE: 10.549 GeV, Target: LH+, Q2=2.73 W=2.63 x=0.31	15037, 15046	HMS
BE: 10.549 GeV, Target: LH+, Q2=3.85 W=2.62 x=0.39	15046	HMS
BE: 10.549 GeV, Target: LD+, Q2=3.85 W=2.62 x=0.39	15046	HMS
BE: 10.549 GeV, Target: LH+, Q2=6.00 W=2.40 x=0.55	15321	HMS
BE: 10.549 GeV, Target: LD+, Q2=6.00 W=2.40 x=0.55	15137	HMS

Pion-LT Run Period 2022

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 10.549 GeV, Target: LH+, Q2=2.45 W=3.20 x=0.20	15810, 15816, 15838	HMS
BE: 10.549 GeV, Target: LH+, Q2=3.85 W=3.07 x=0.31	15838	HMS
BE: 10.549 GeV, Target: LD+, Q2=3.85 W=3.07 x=0.31	15838	HMS
BE: 10.549 GeV, Target: LH+, Q2=5.00 W=2.95 x=0.39	15838, 15954	HMS
BE: 10.549 GeV, Target: LH+, Q2=6.00 W=3.19 x=0.39	15337, 15384,	HMS
BE: 10.549 GeV, Target: LH+, Q2=8.50 W=2.79 x=0.55	15623, 15672, 15714, 15722	HMS

Pion-LT Run Period 2022

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 10.549 GeV, Target: LD-, Q2=3.85 W=2.62 x=0.39	15954, 15981, 15991 / 15977	HMS, SHMS
BE: 10.549 GeV, Target: LD-, Q2=6.00 W=2.40 x=0.55	15991 / 15977	HMS, SHMS
BE: 10.549 GeV, Target: LD-, Q2=3.85 W=3.07 x=0.31	15152 / 15977	HMS, SHMS
BE: 8.479 GeV, Target: LH+, Q2=2.45 W=3.20 x=0.20	16063, 16102	HMS
BE: 8.479 GeV, Target: LH+, Q2=3.85 W=3.07 x=0.31	16102	HMS
BE: 8.479 GeV, Target: LH+, Q2=2.12 W=2.05 x=0.38	16162, 16203, 16207, 16210, 16220, 16228	HMS
BE: 6.395 GeV, Target: LH+, Q2=1.45 W=2.02 x=0.31	16245, 16258	HMS

Pion-LT Run Period 2022

CAL Calibration

Physics Settings	Run Numbers (HMS/SHMS)	Status
BE: 6.395 GeV, Target: LH+, Q2=2.73 W=2.63 x=0.31	16287	HMS
BE: 6.395 GeV, Target: LH+, Q2=3.85 W=2.62 x=0.39	16319	HMS
BE: 6.395 GeV, Target: LD+, Q2=3.85 W=2.62 x=0.39	16319	HMS
BE: 6.395 GeV, Target: LH+, Q2=1.60 W=3.08 x=0.15	16403, 16411,	HMS
BE: 6.395 GeV, Target: LD+, Q2=1.60 W=3.08 x=0.15	16421, 16425, 16428, 16435, 16439, 16446, 16452, 16457, 16463, 16466	HMS
BE: 6.395 GeV, Target: LD-, Q2=3.85 W=2.62 x=0.39	16520, 16548, 16585, 16588, 16590, 16595 / 16588, 16631, 16683, 16686, 16697, 16747, 16750, 16752, 16754, 16759, 16761	HMS, SHMS
BE: 6.395 GeV, Target: LD-, Q2=1.60 W=3.08 x=0.15	16626, 16770, 16795 / 16770, 16820, 16856	HMS, SHMS

THANK YOU