CERN

First Assessment of the Injection loss in 2016

Chen

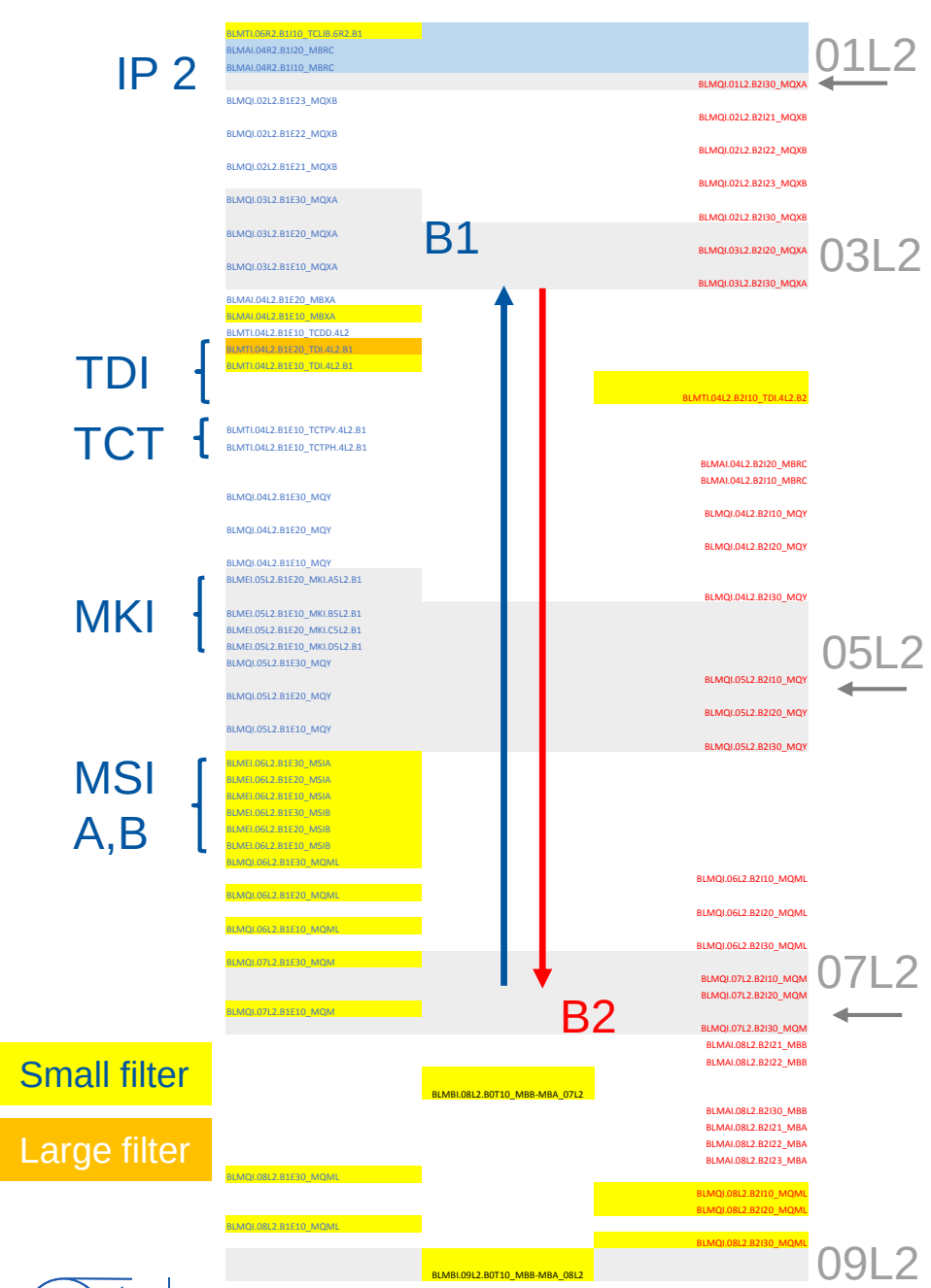
TWG Meeting

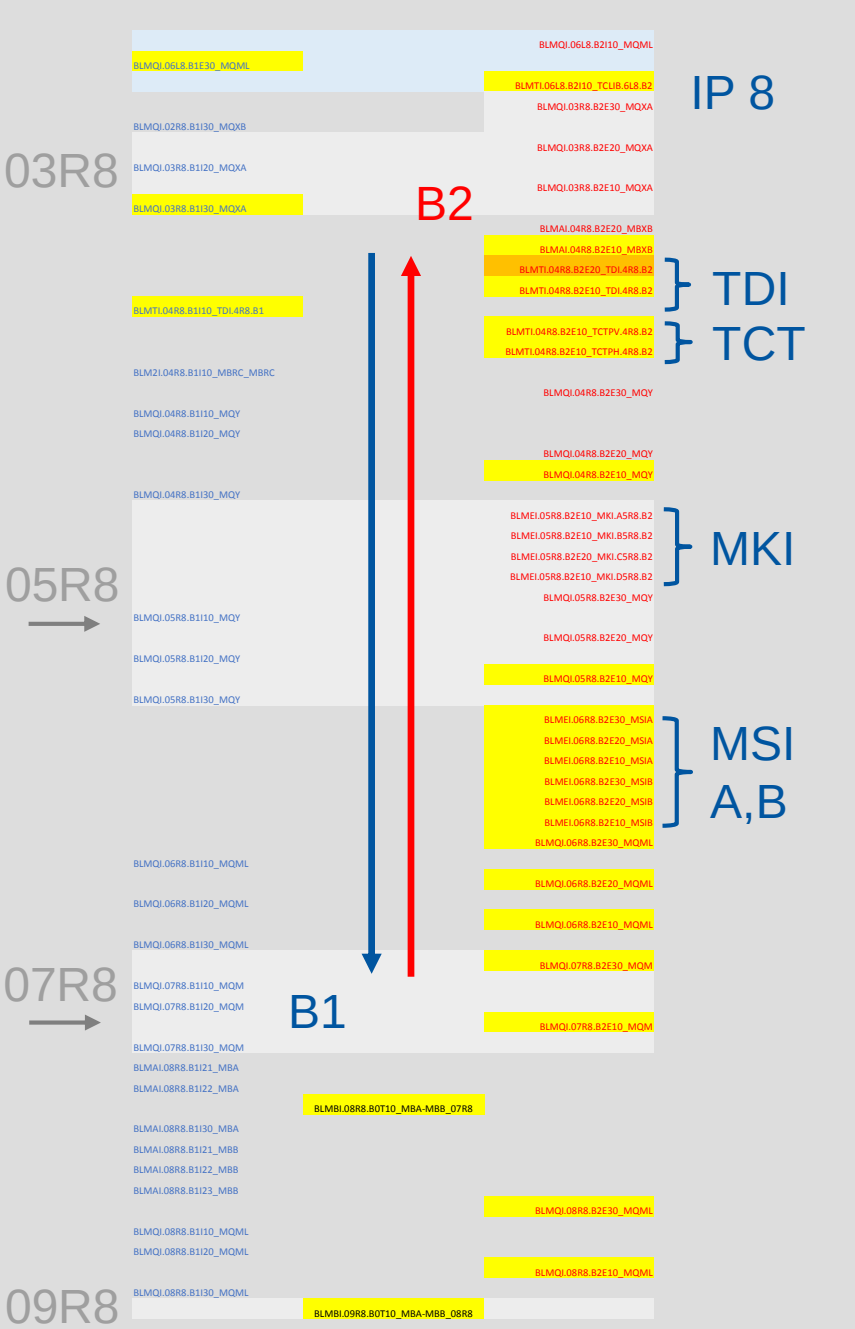
02.08.2016

Current Situation

- 29 families with injection loss related corrections (_MF, _RC, _INJ, _OI, MKI, MSI, TCT, TDI, TCLI, TCDD)
- 13 Normal families
- 23 BLMs with RC filters (22+1) in IR2
- 26 BLMs with RC filters (25+1) in IR8

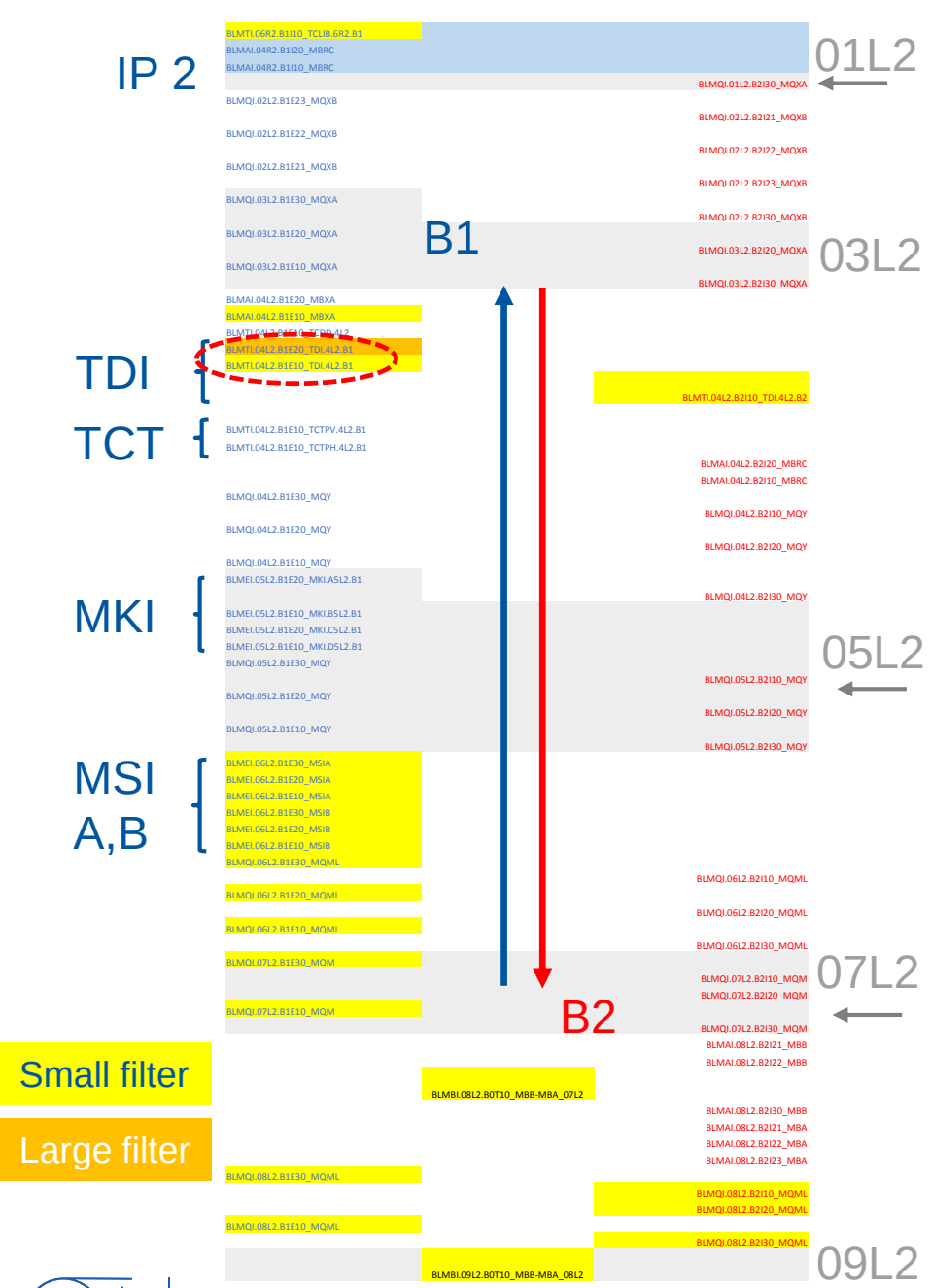
- BLM loss during INJPHYS beam mode from June 1st to July 25th (63 fills)

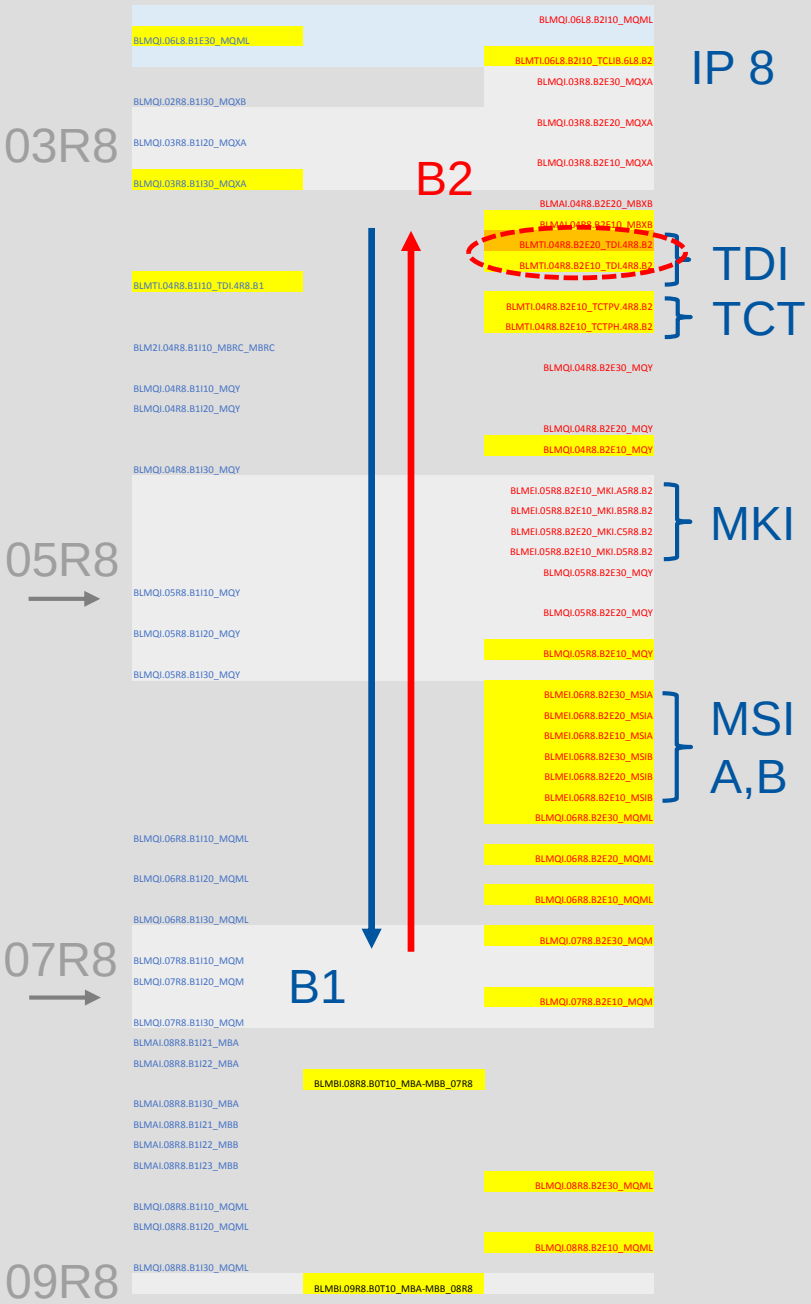




Small filter

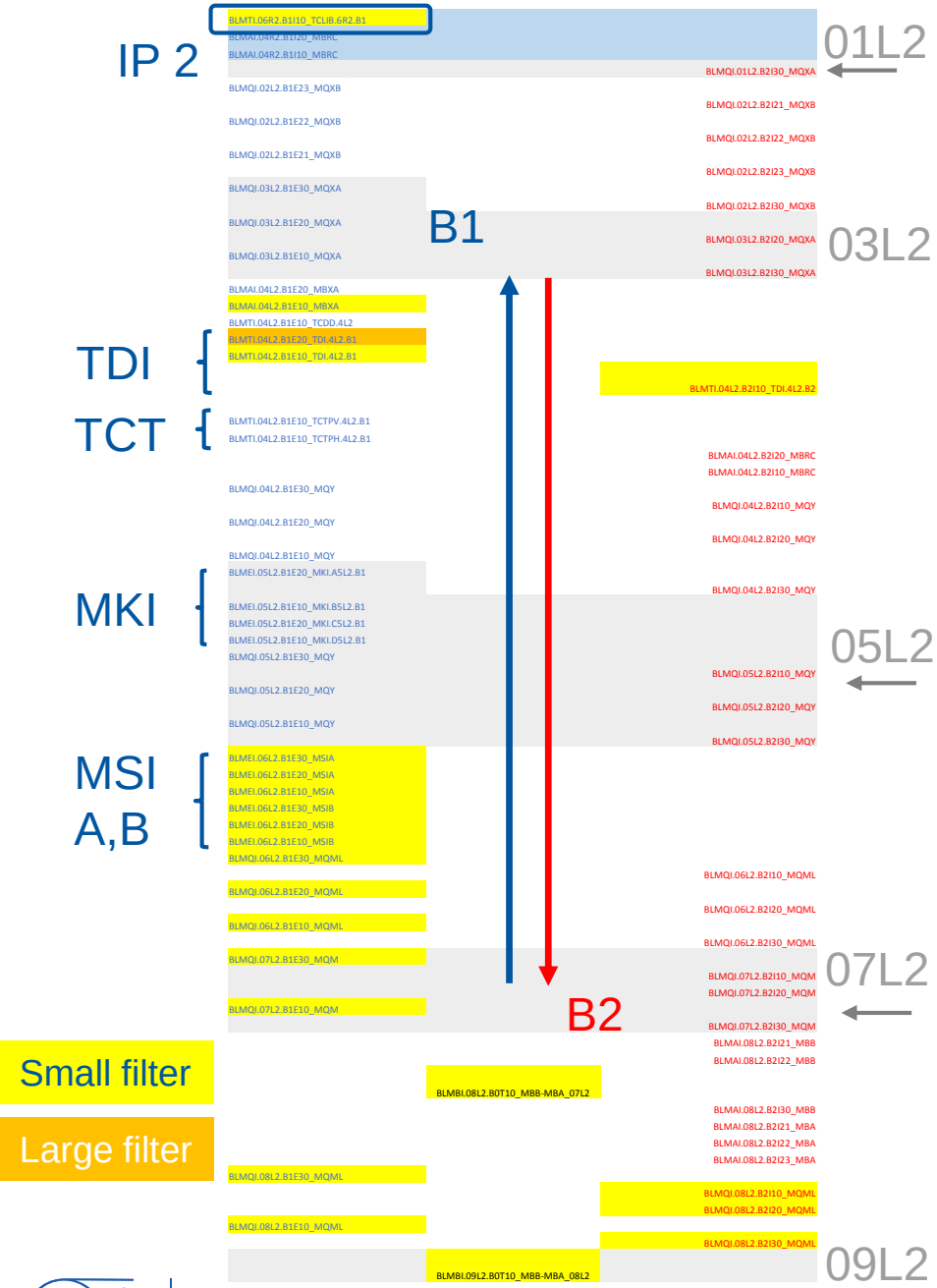
Large filter





Small filter

Large filter



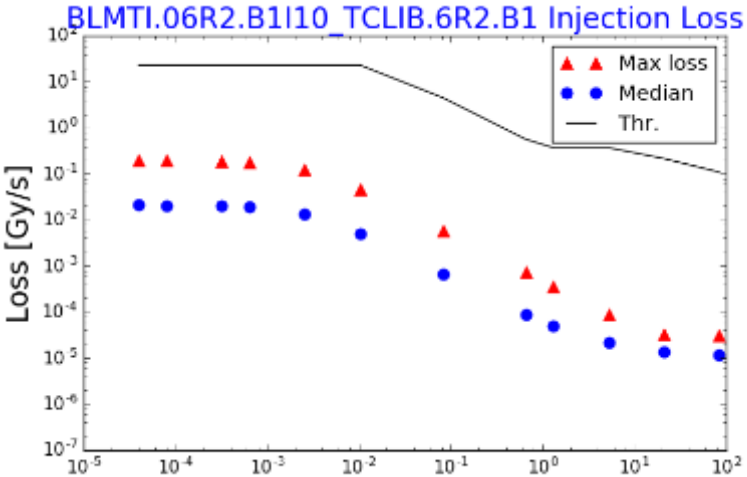
THRI_TCLI_RC (1)

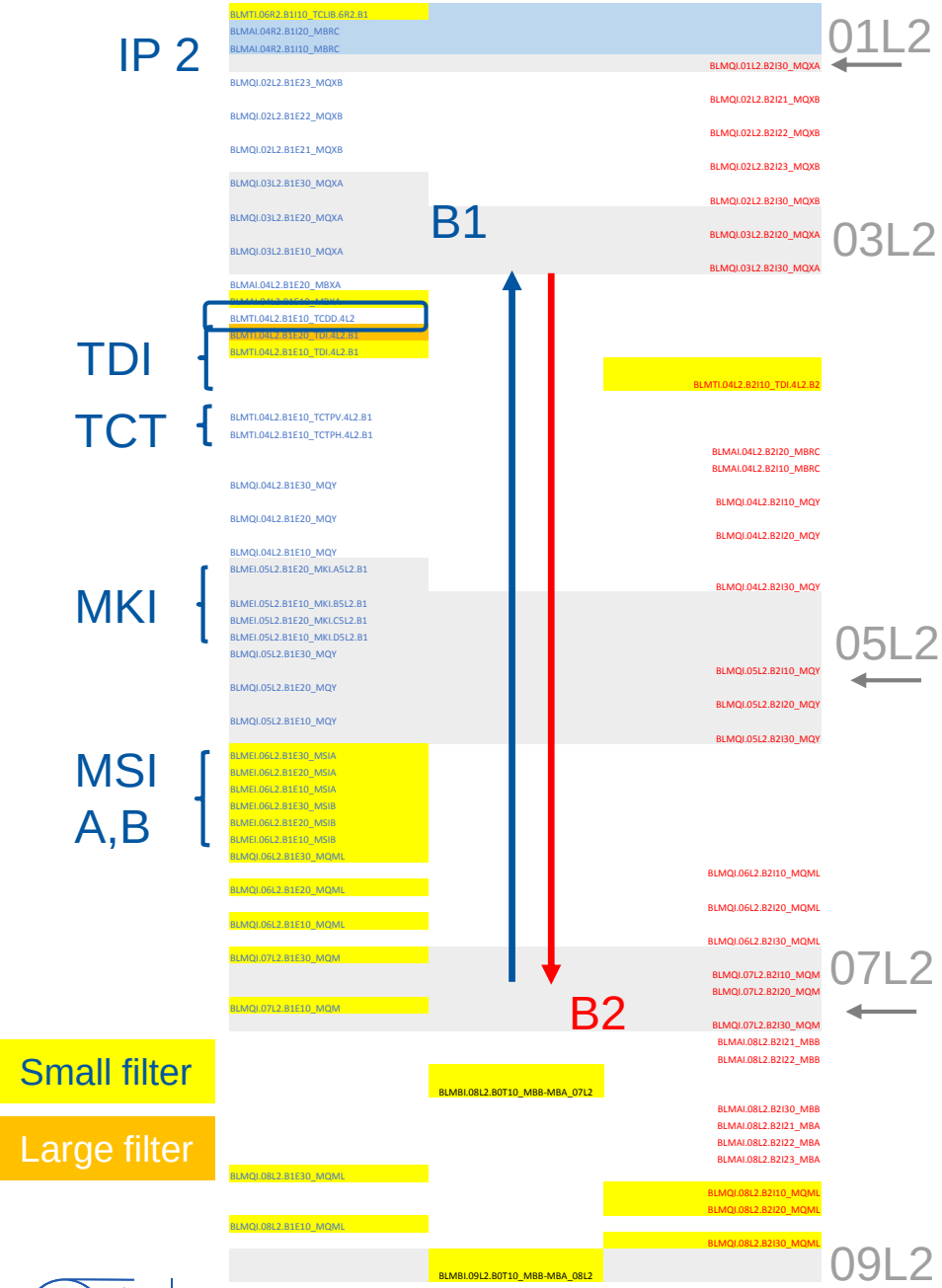
THRI_TCDD (1)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)

THRI_TCTVA (2)





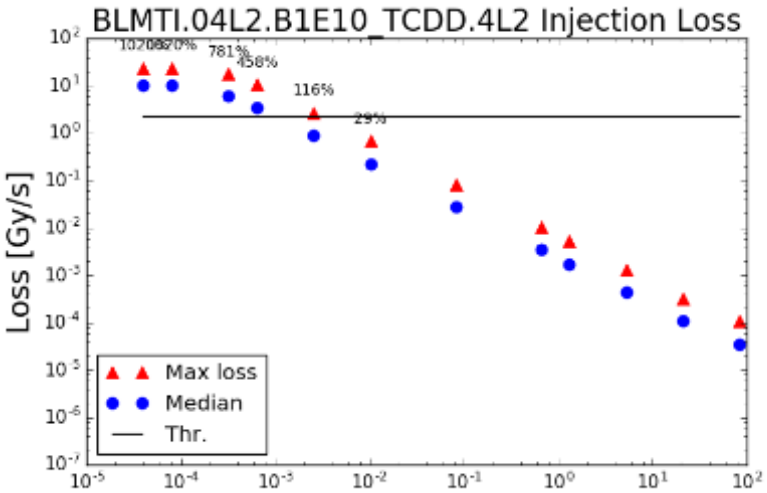
THRI_TCLI_RC (1)

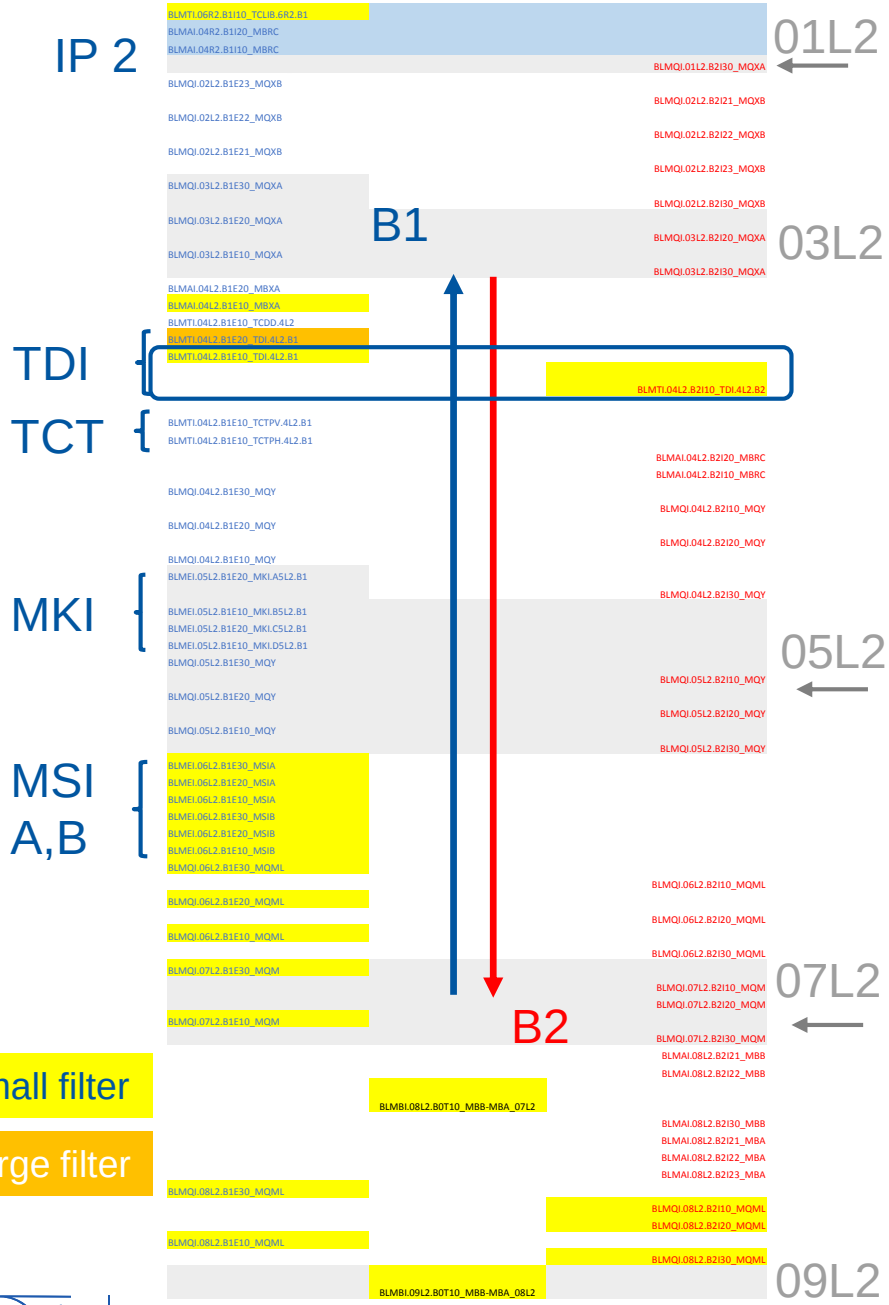
THRI_TCDD (1) (not connected to BIS)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)

THRI_TCTVA (2)





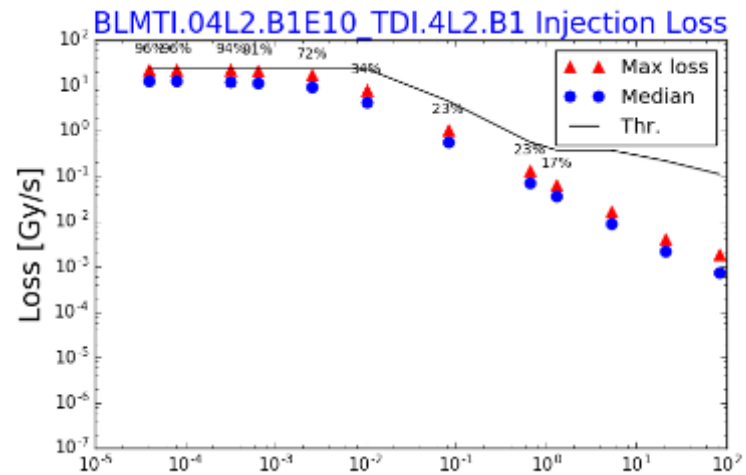
THRI_TCLI_RC (1)

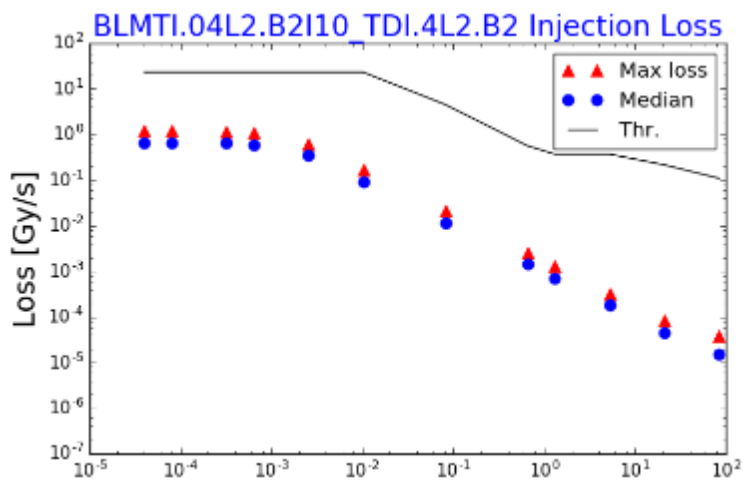
THRI_TCDD (1)

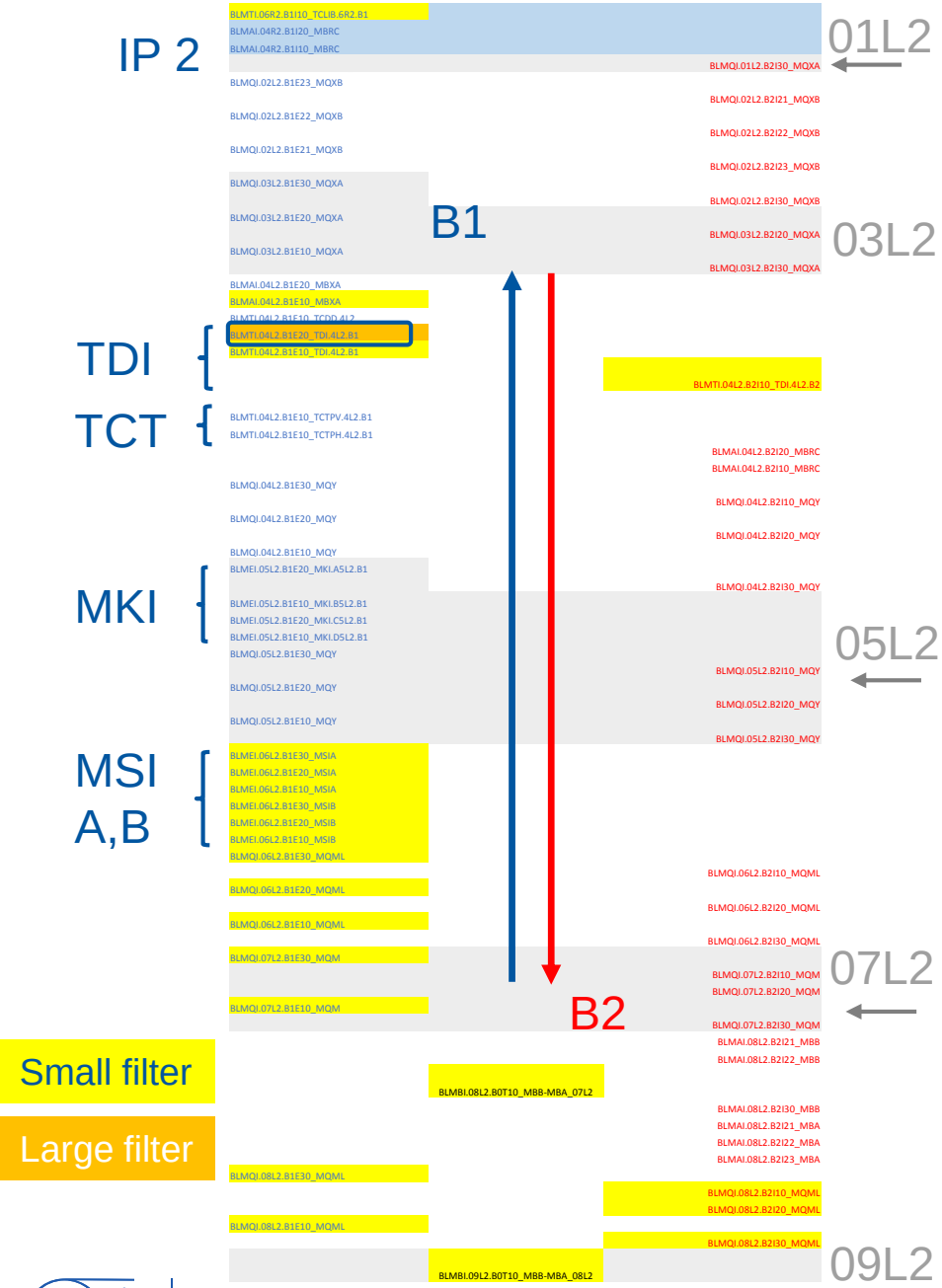
THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)

THRI_TCTVA (2)







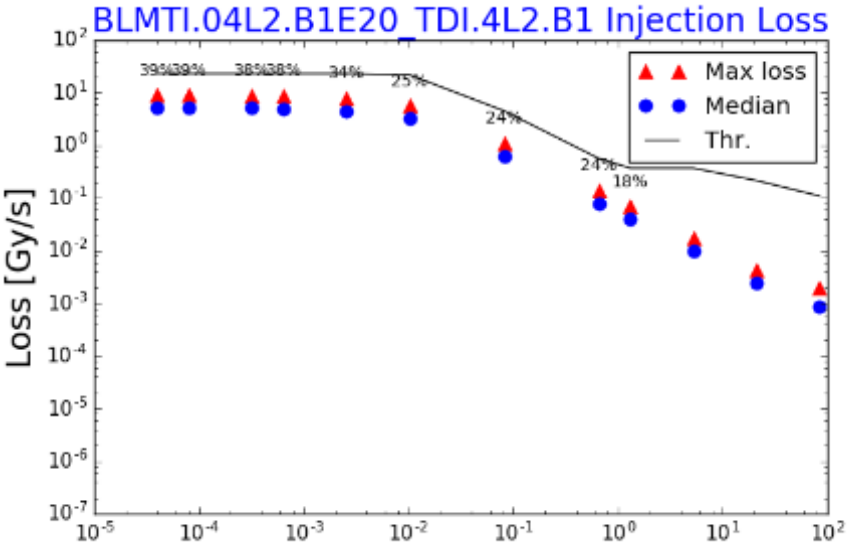
THRI_TCLI_RC (1)

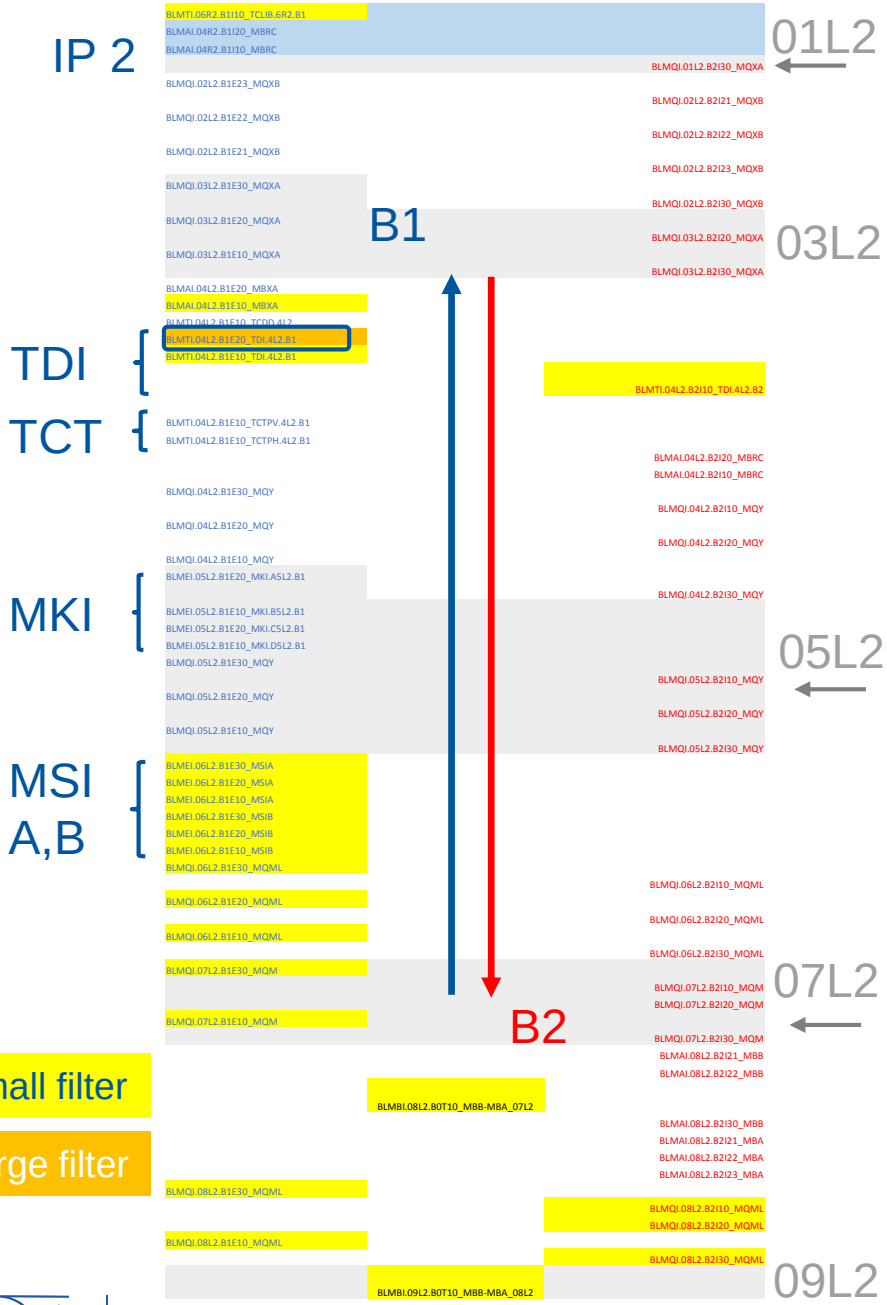
THRI_TCDD (1)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)

THRI_TCTVA (2)





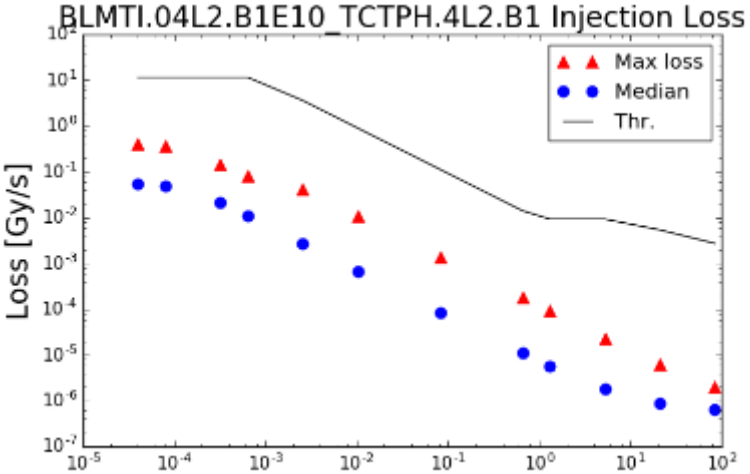
THRI_TCLI_RC (1)

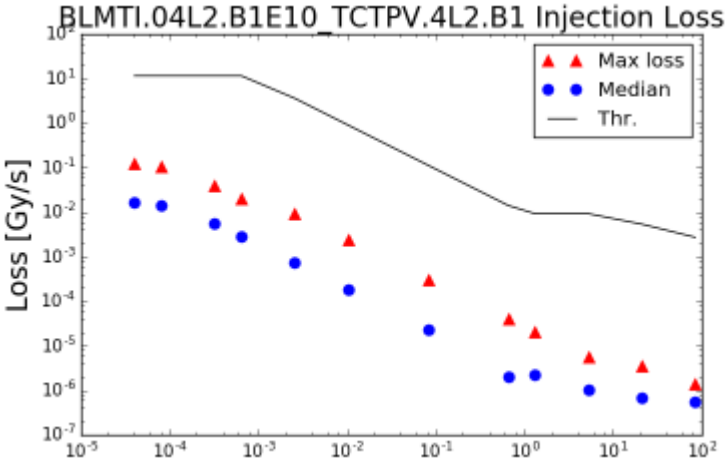
THRI_TCDD (1)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)

THRI_TCTVA (2)





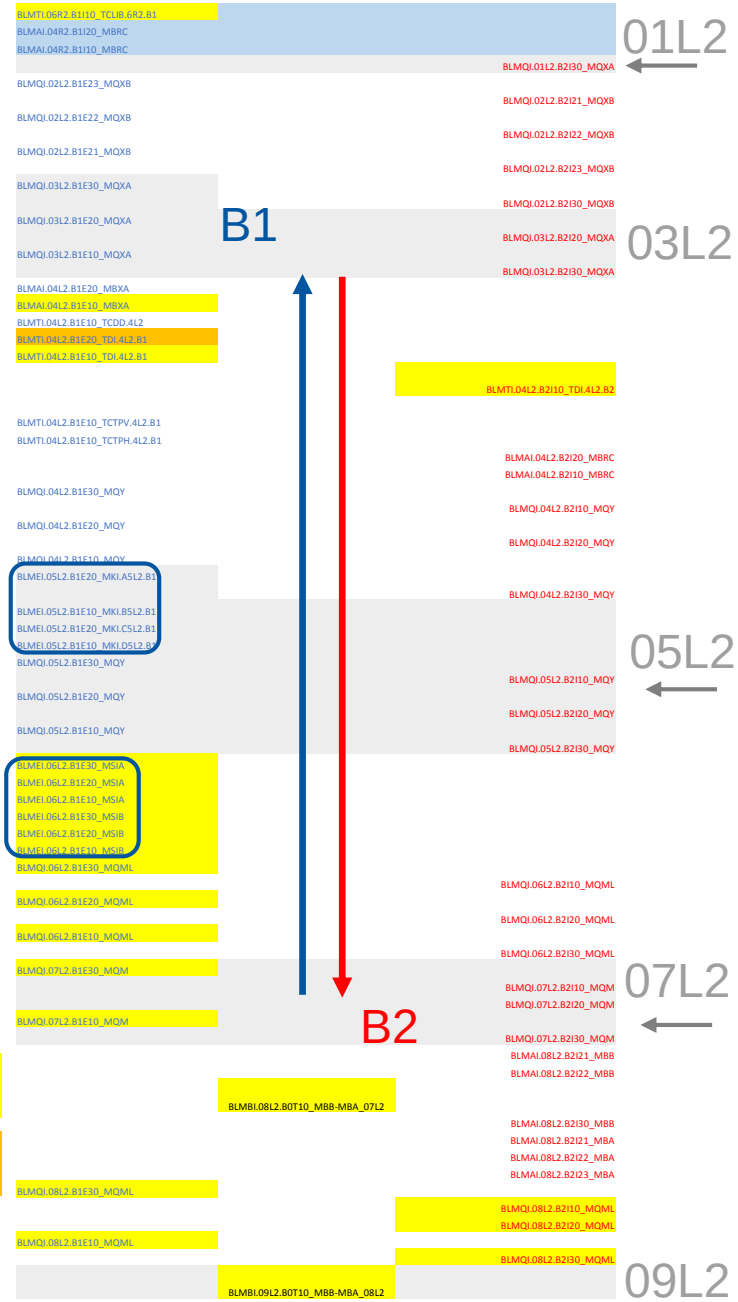
IP 2

TDI

TCT

MKI

MSI A,B

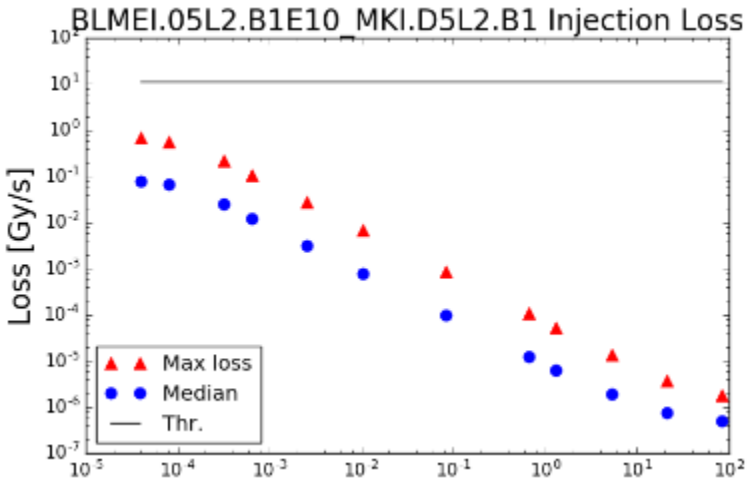


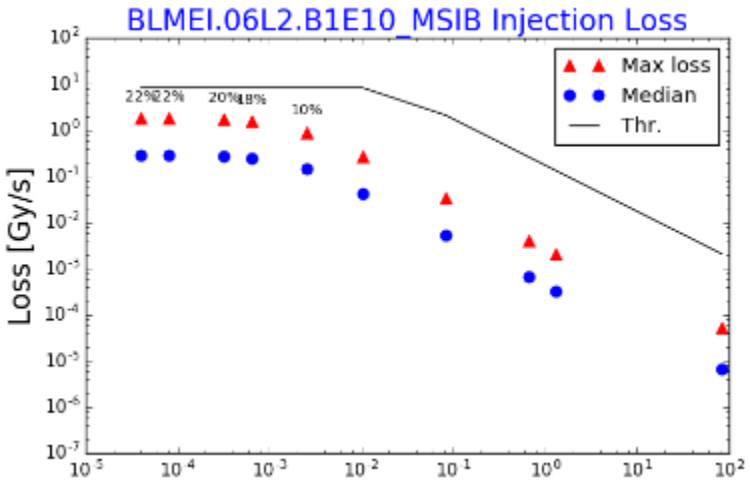
Small filter

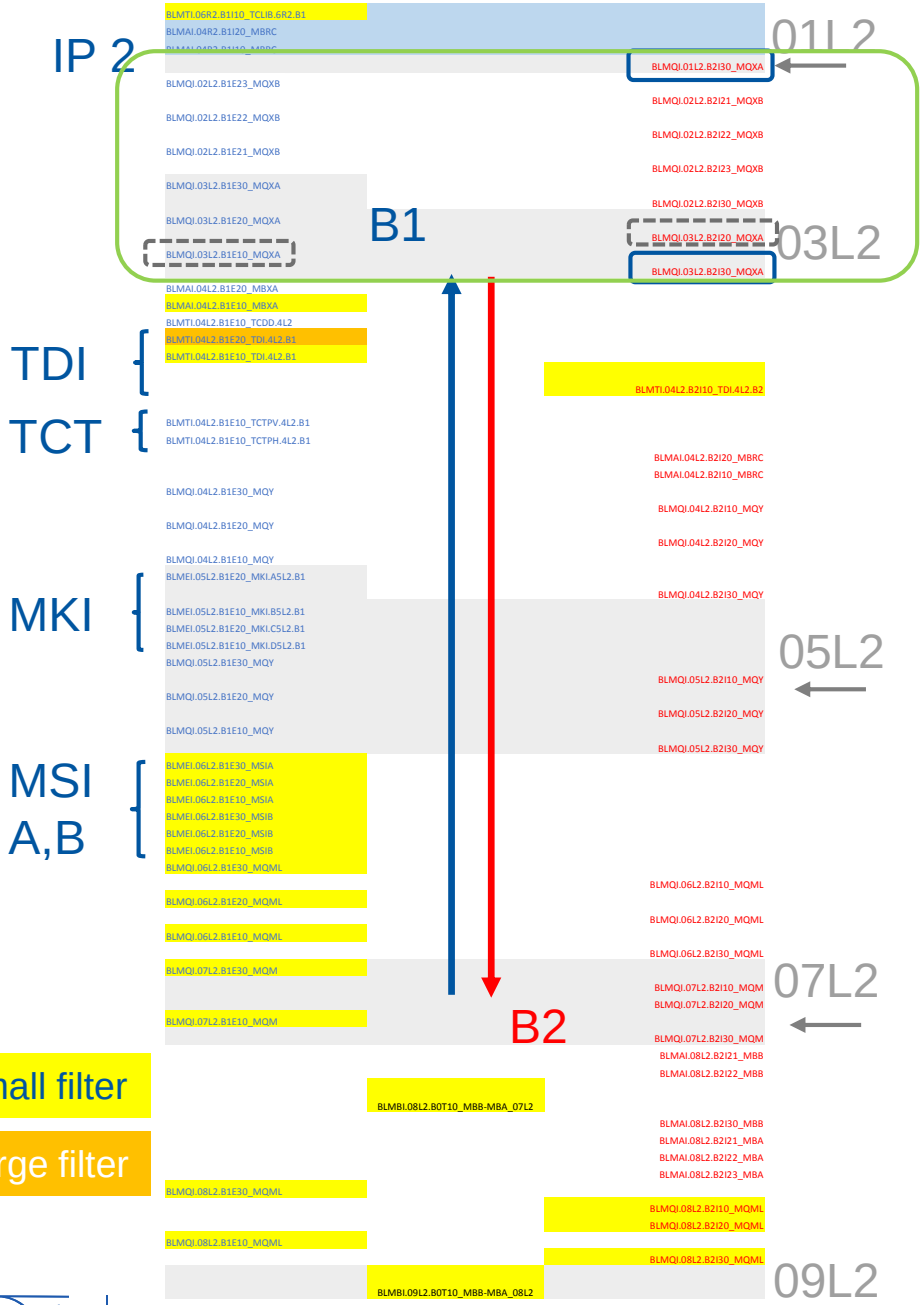
Large filter

THRI_MKI (4)

THRI_MSI_RC (6)







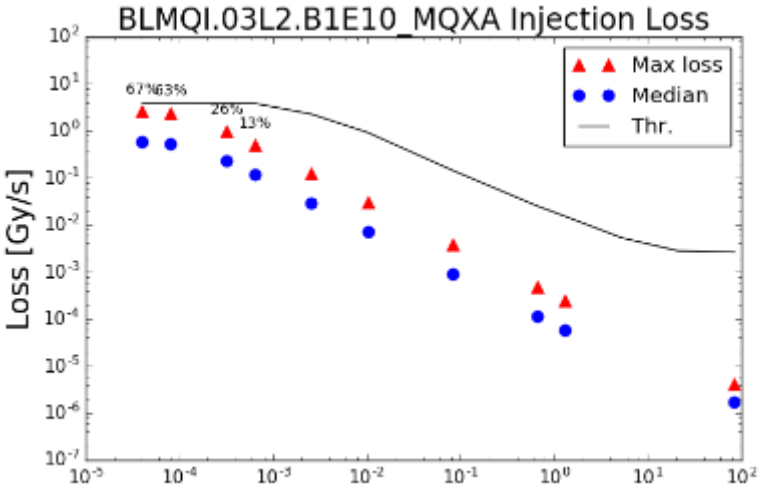
THRI.IP28.P1_MQXA_FT (1)

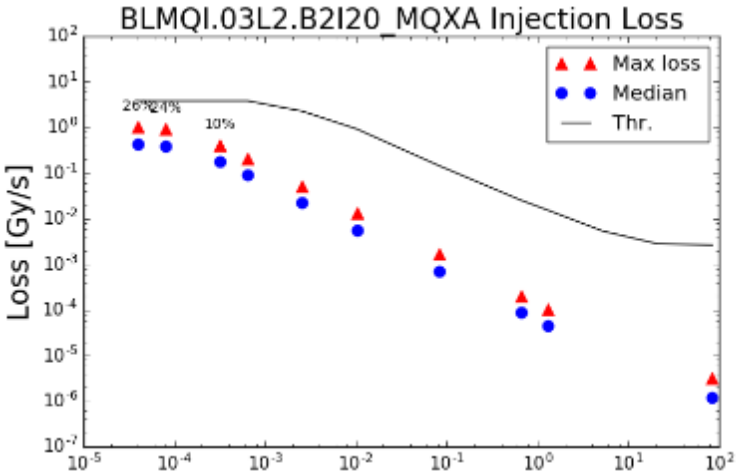
THRI.IP28.P2_MQXA (2)

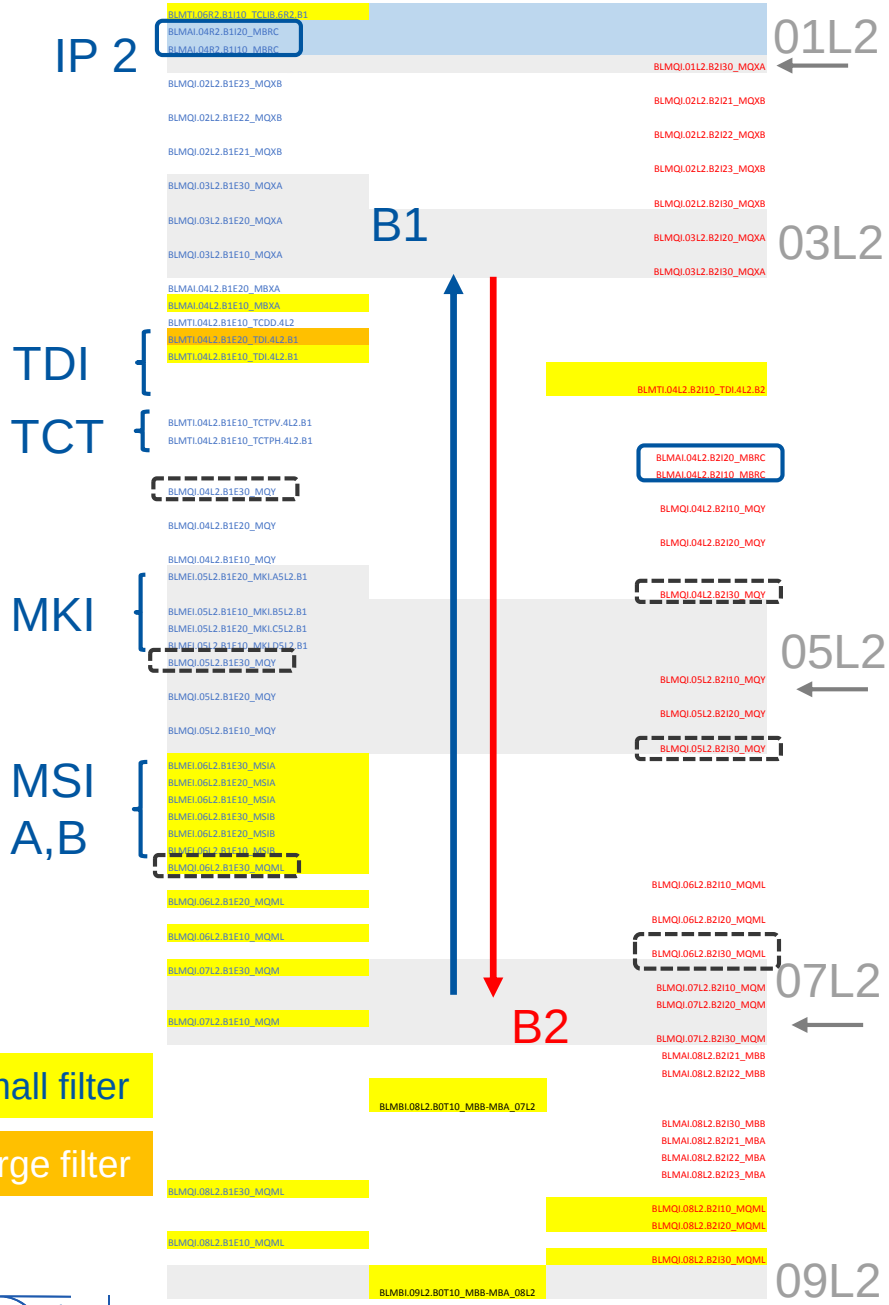
THRI.IP28.P3_MQXA_FT (1)

THRI.IP28.P3_MQXA_INJ_FT (2)

THRI.IP28.P3_MQXB_FT (1)







THRI.LS.P12_MBRC_MF (4)

THRI.LS.P2_MBX_MF

THRI.LS.P1_MBX_RC

THRI.LS.P1_MQM_MF

THRI.LS.P1_MQM_RC_INJ

THRI.LS.P1_MQY

THRI.LS.P1_MQY_MF

THRI.LS.P2_MQM_MF

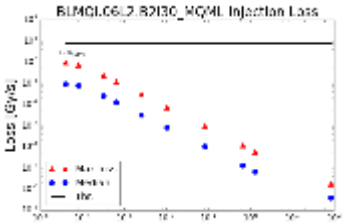
THRI.LS.P2_MQM_RC_INJ

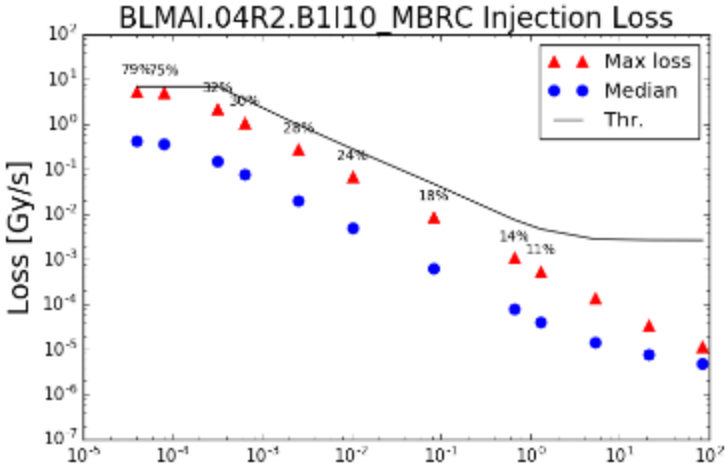
THRI.LS.P2_MQY

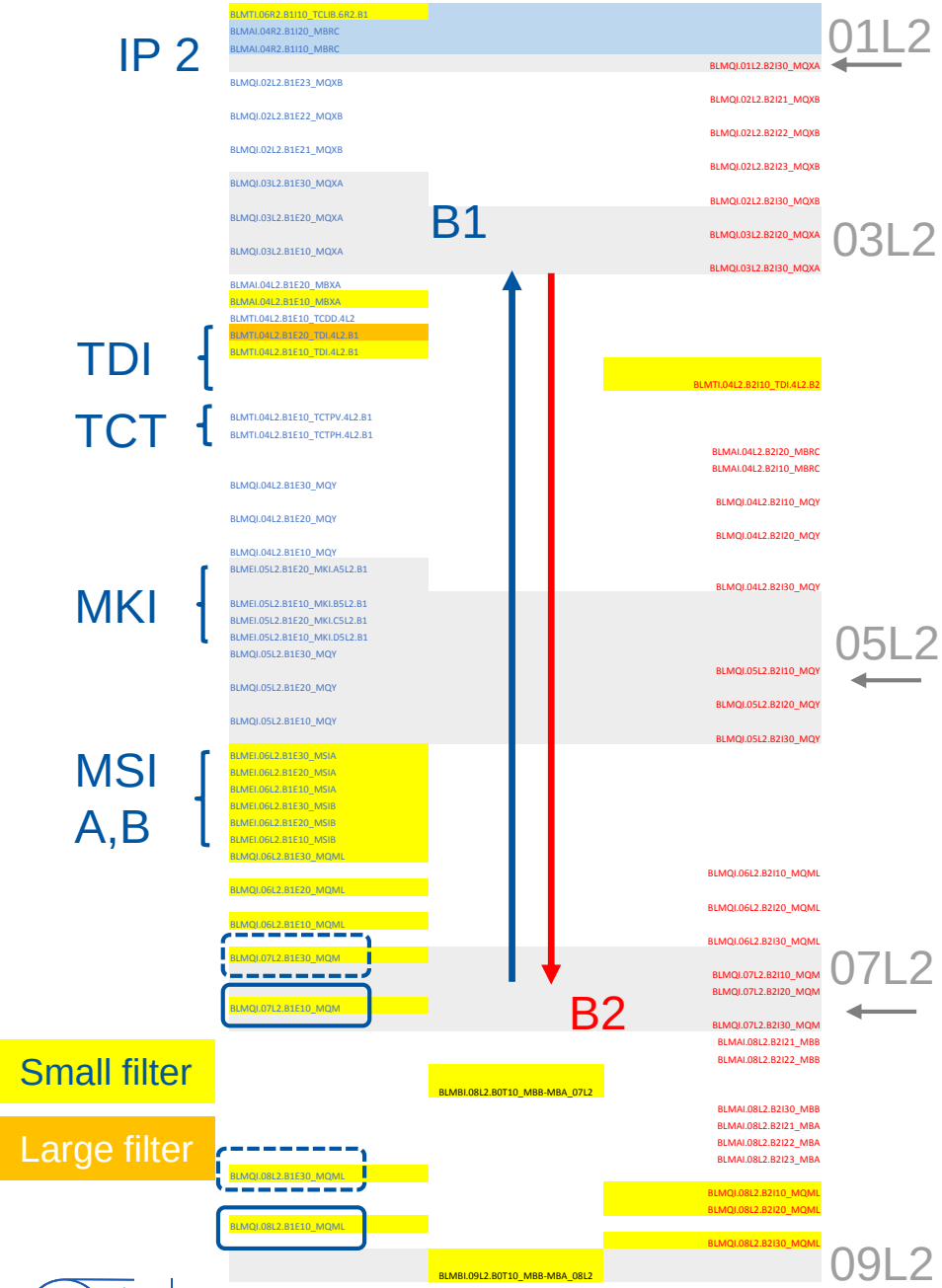
THRI.LS.P3_MQM (1)

THRI.LS.P3_MQM_RC (1)

THRI.LS.P3_MQY (4)







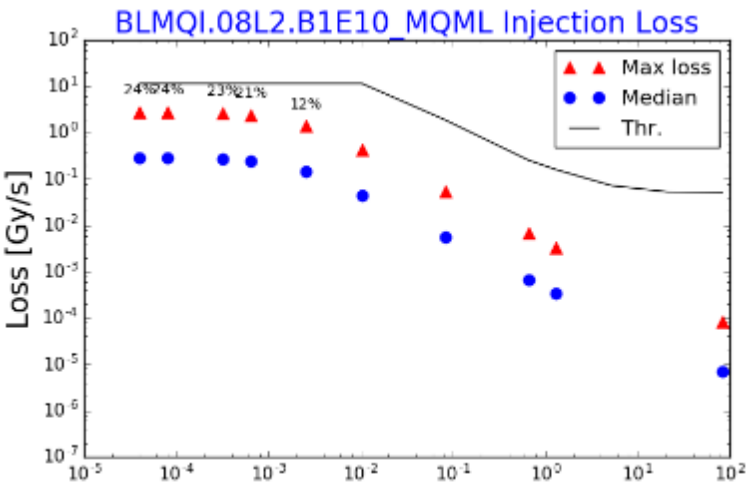
THRI.DS.P1_MQM_RC (2)

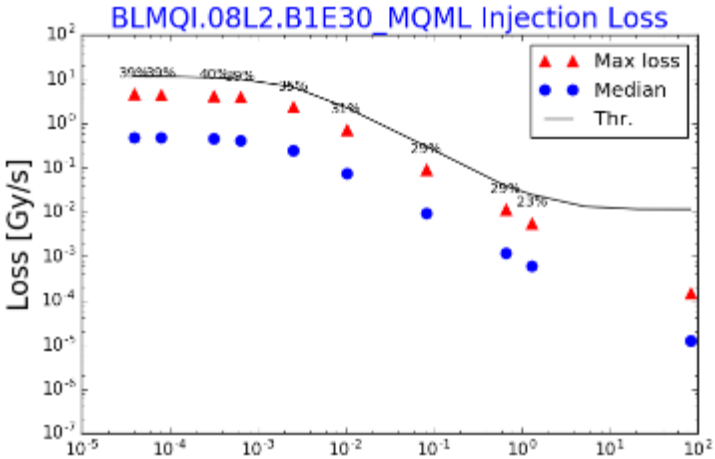
THRI.DS.P1_MQM_MF (1)

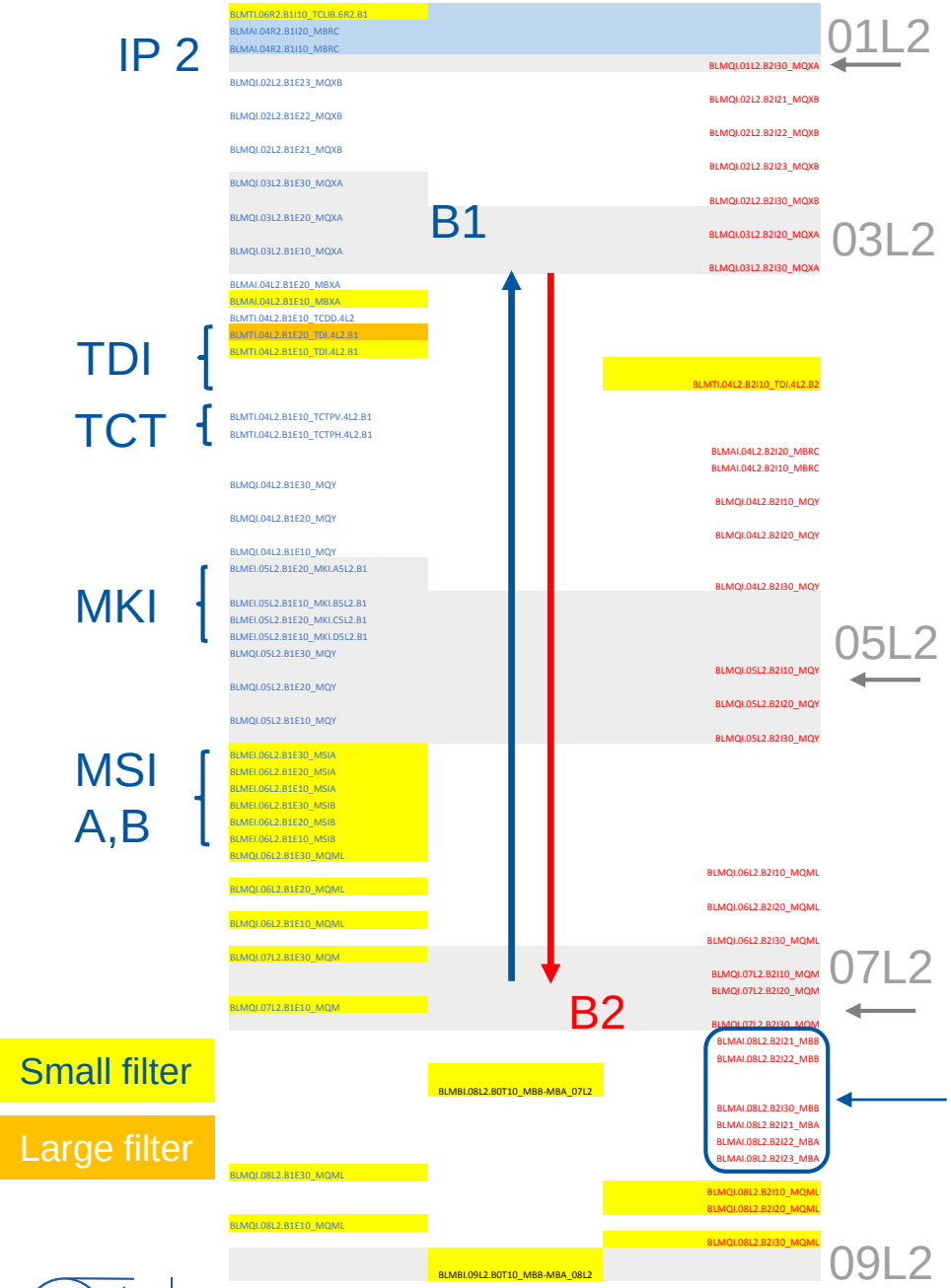
THRI.DS.P2_MQM_MF (1)

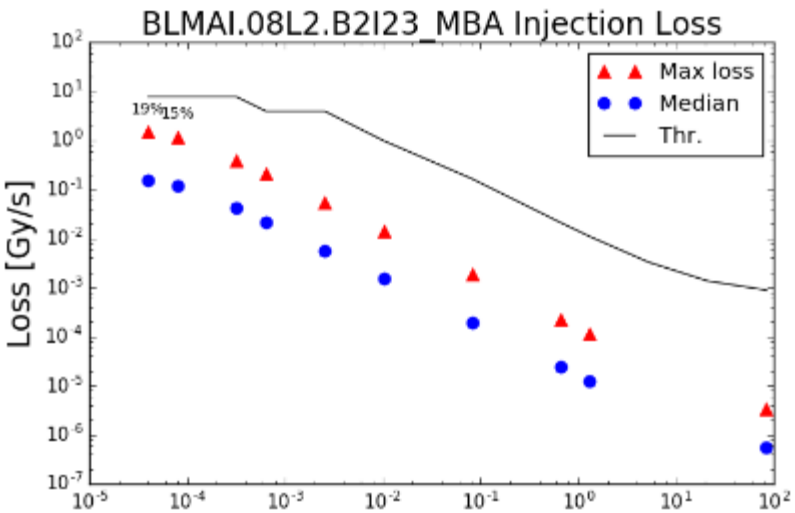
THRI.DS.P3_MQM_MF (1)

THRI.DS.P3_MQM_RC_INJ (2)





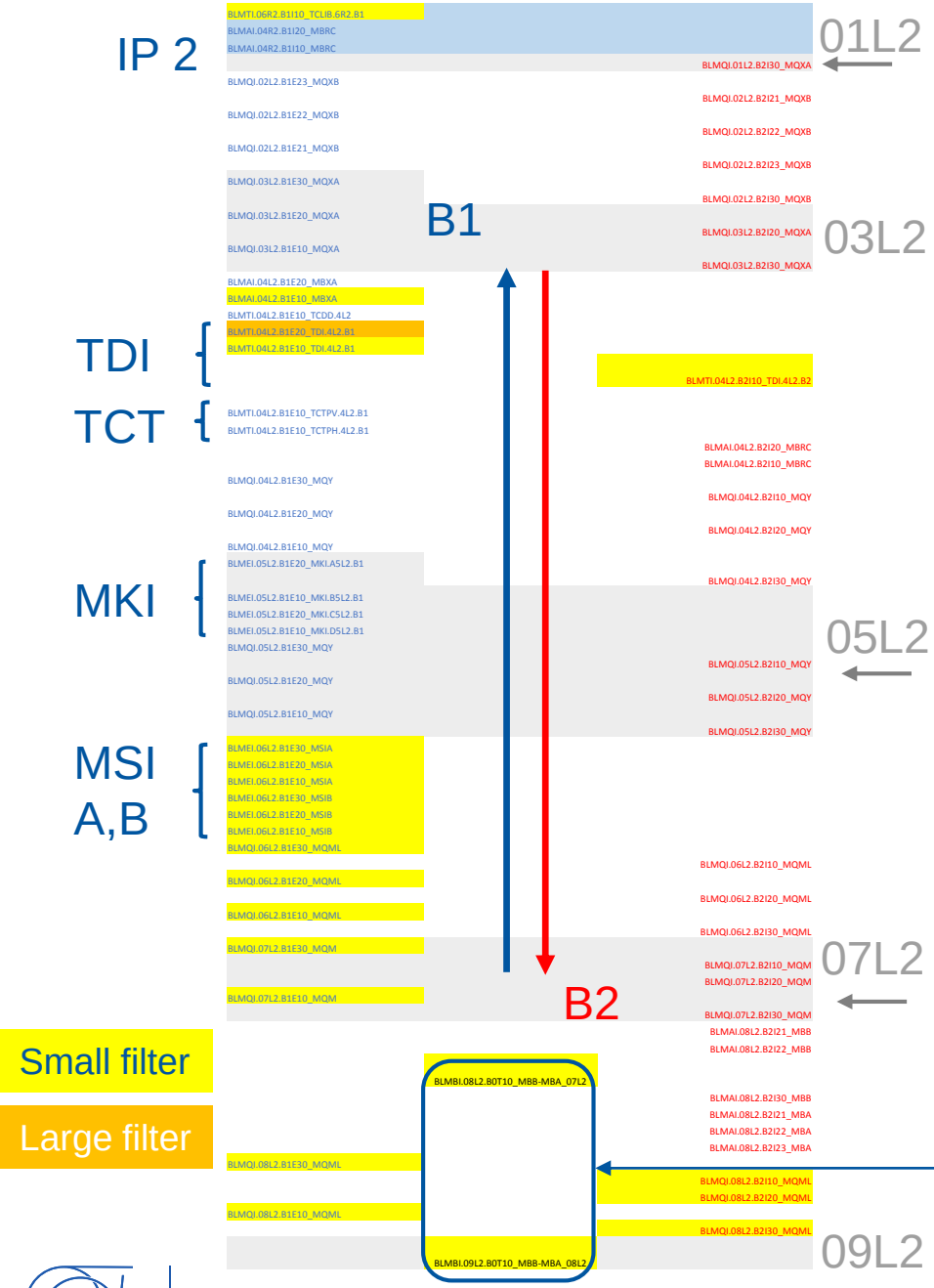


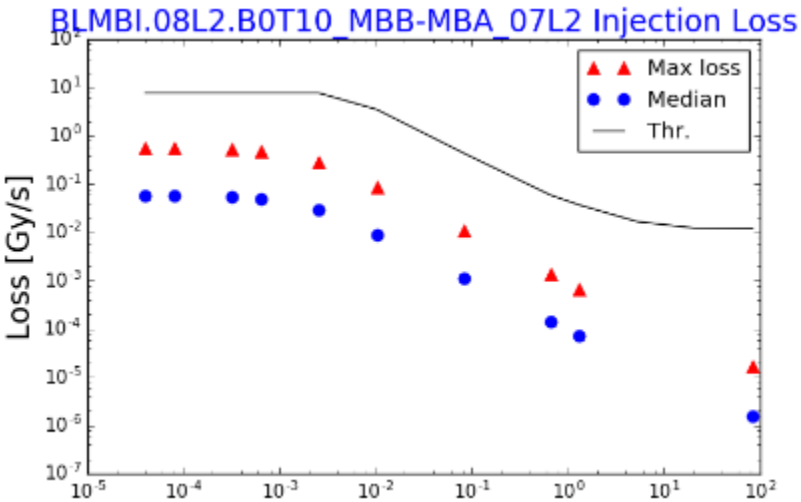


THRI_B2.2_MB (5)

THRI_B2.3_MB (1)

2 Legacy Families





THRI.ARDS_MBMB_RC

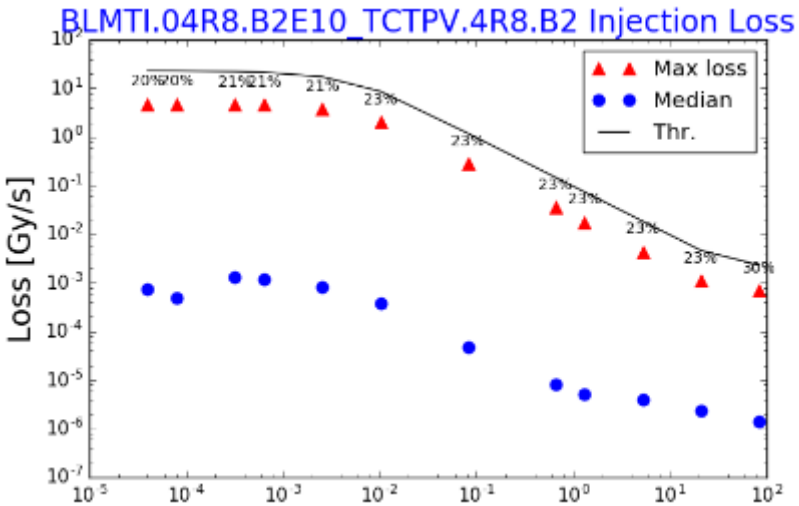
THRI_TCLI_RC (1)

THRI_TCT_RC (1)

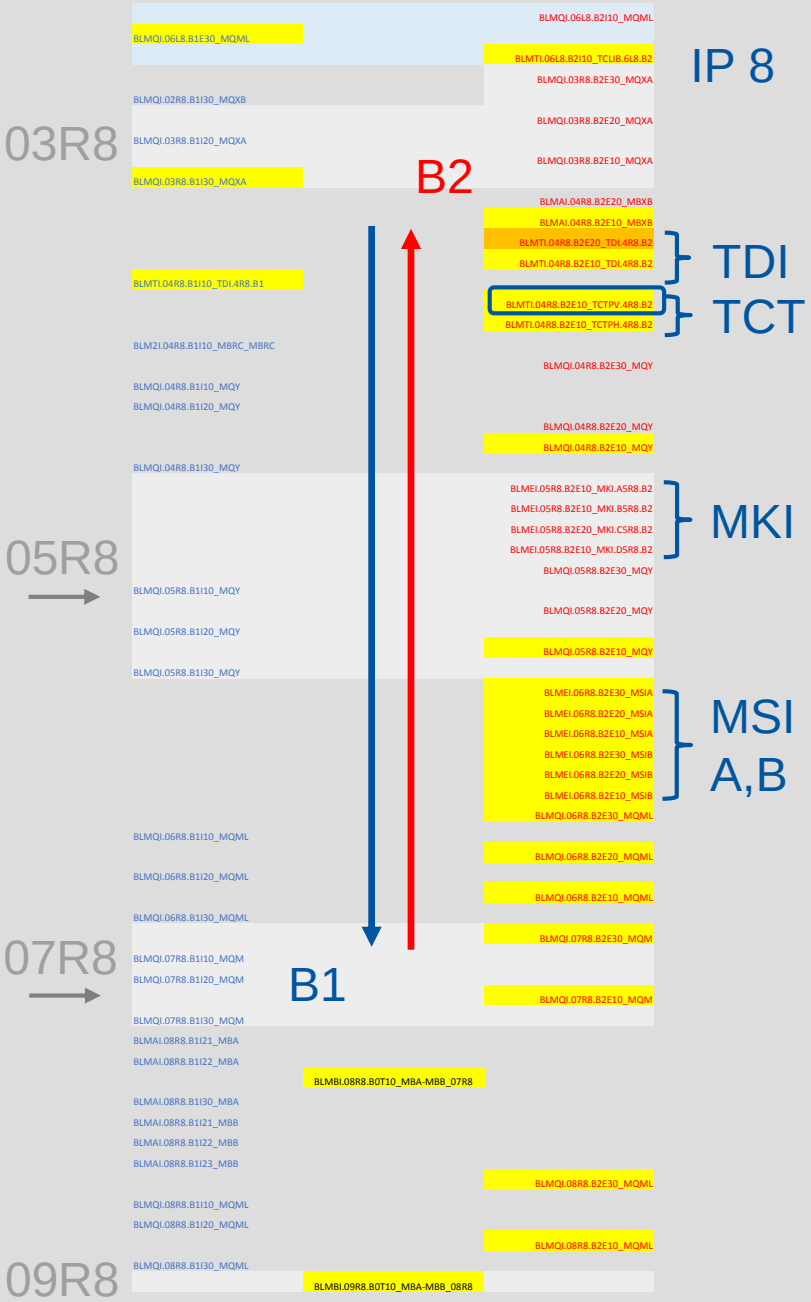
THRI_TCTVB_OI_RC8 (1)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)



THRI.TCTVB_OI_RC8 Long RS increased (ECR0048)



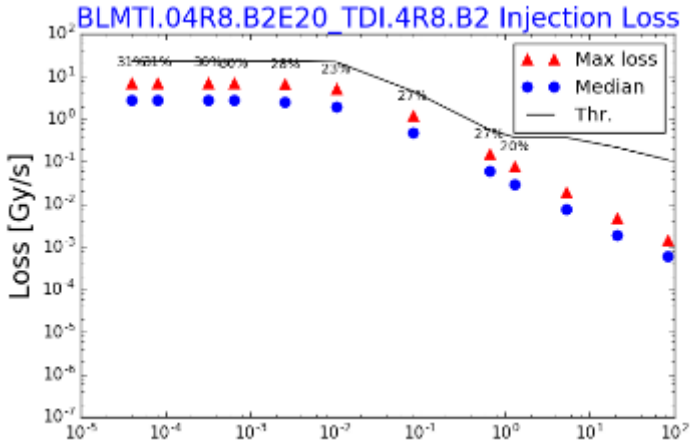
THRI_TCLI_RC (1)

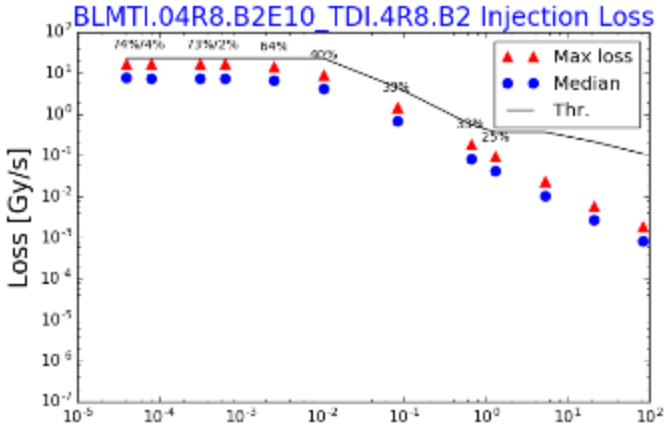
THRI_TCT_RC (1)

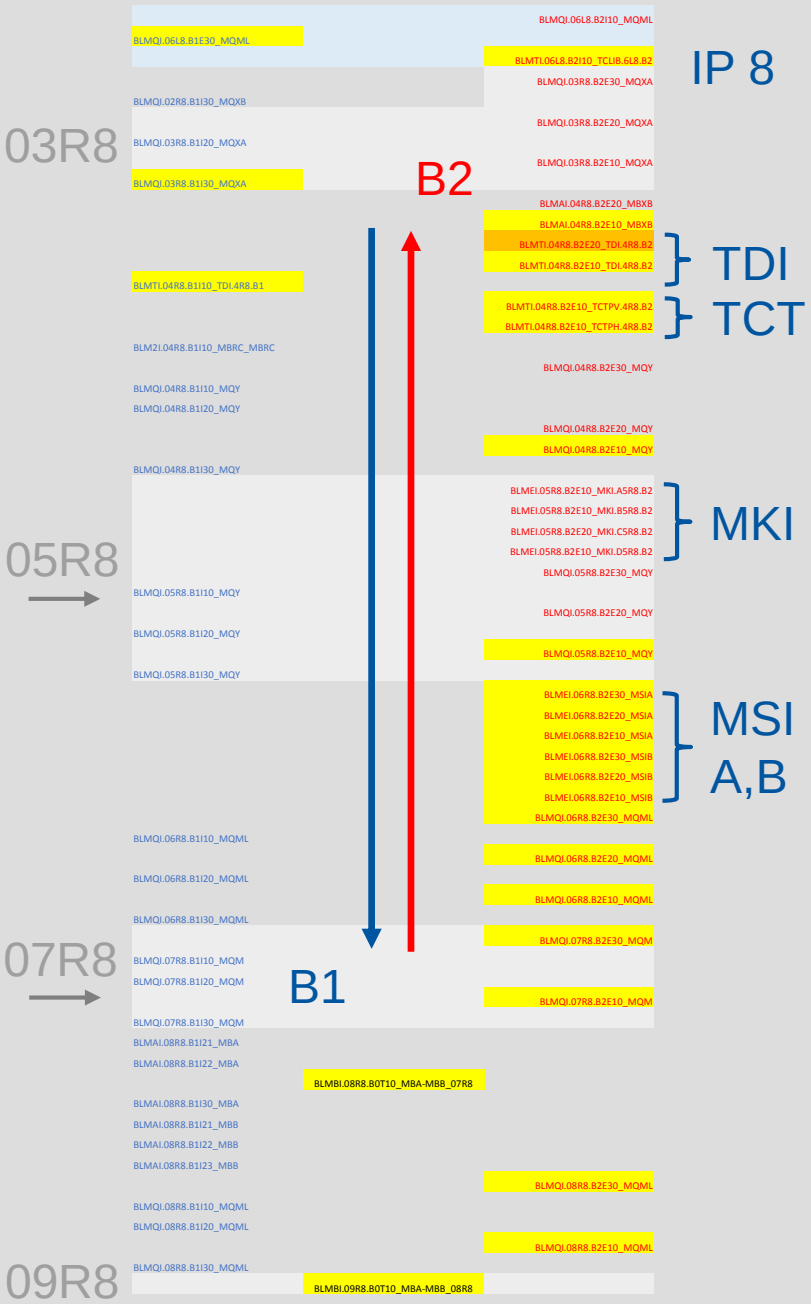
THRI_TCTVB_OI_RC8 (1)

THRI_TDI_RC8 (2)

THRI_TDI_RC180 (1)







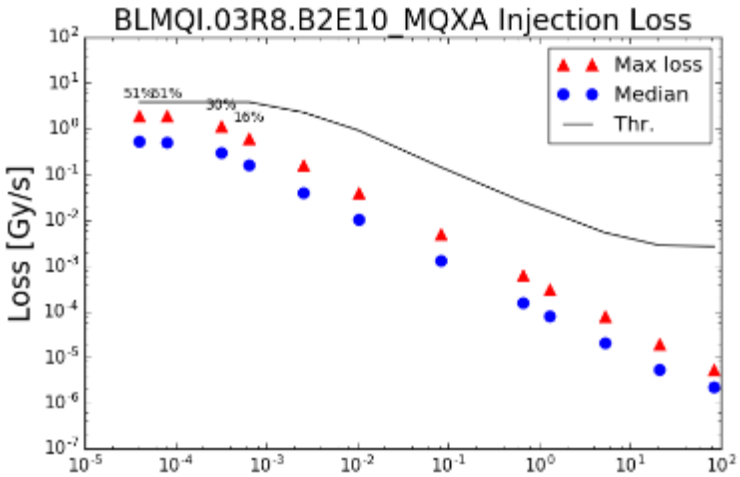
THRI.IP28.P1_MQXA_FT (1)

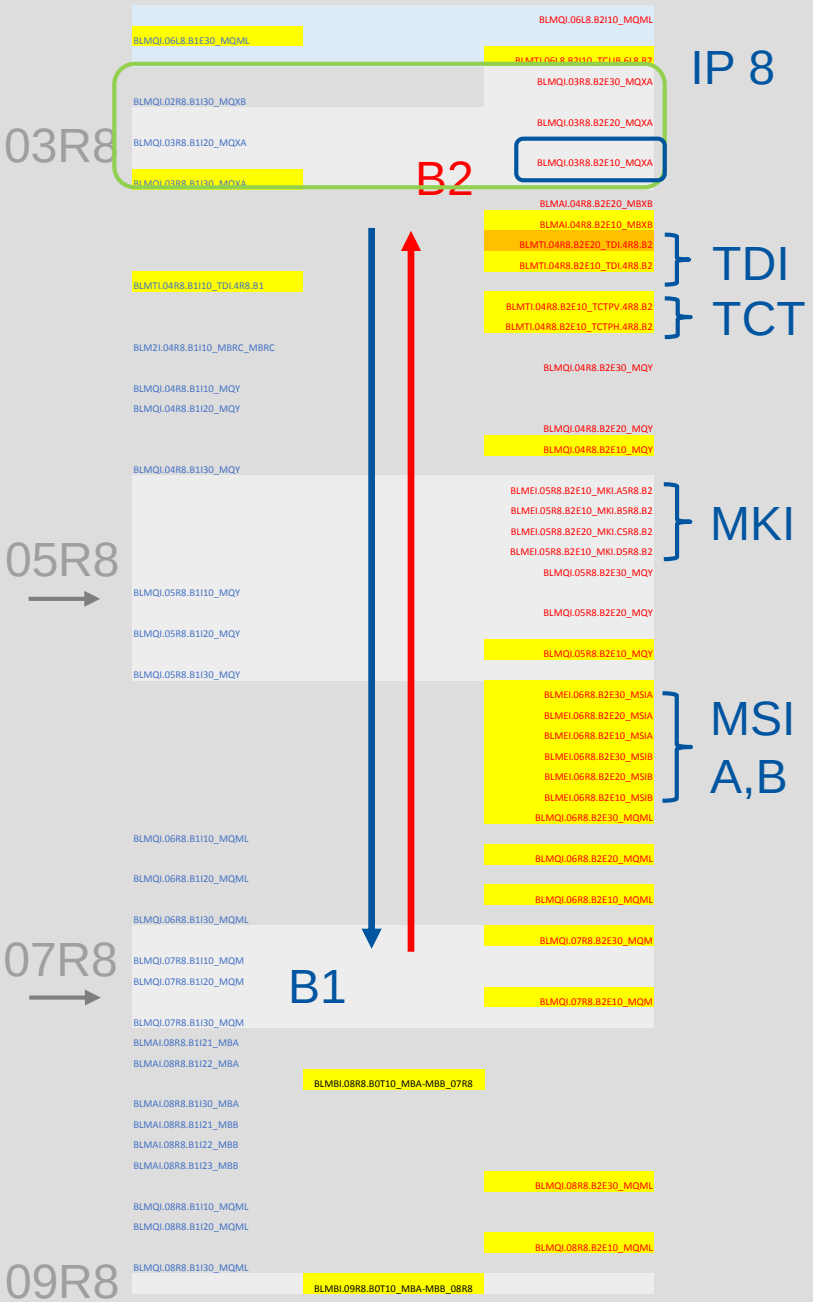
THRI.IP28.P2_MQXA (2)

THRI.IP28.P3_MQXA_INJ_FT (1)

THRI.IP28.P3_MQXA_RC_INJ_FT (1)

THRI.IP28.P3_MQXB_FT (1)





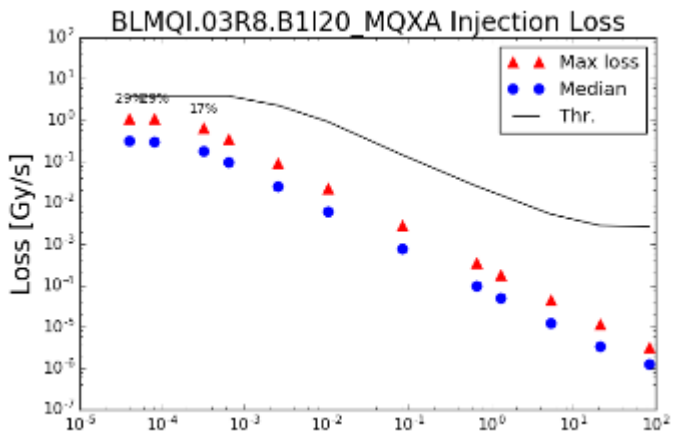
THRI.IP28.P1_MQXA_FT (1)

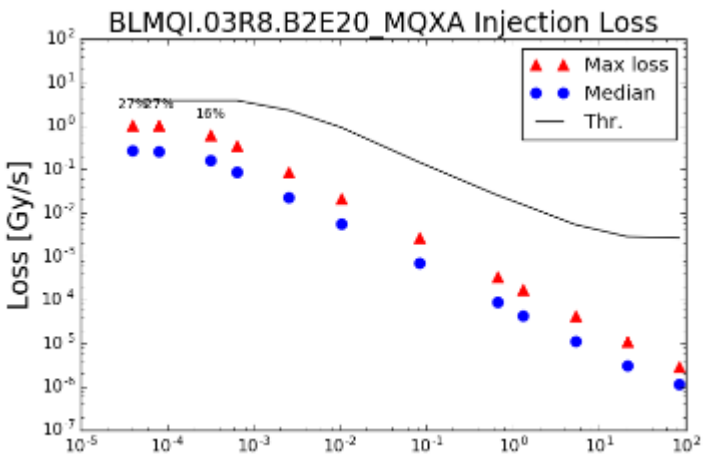
THRI.IP28.P2_MQXA (2)

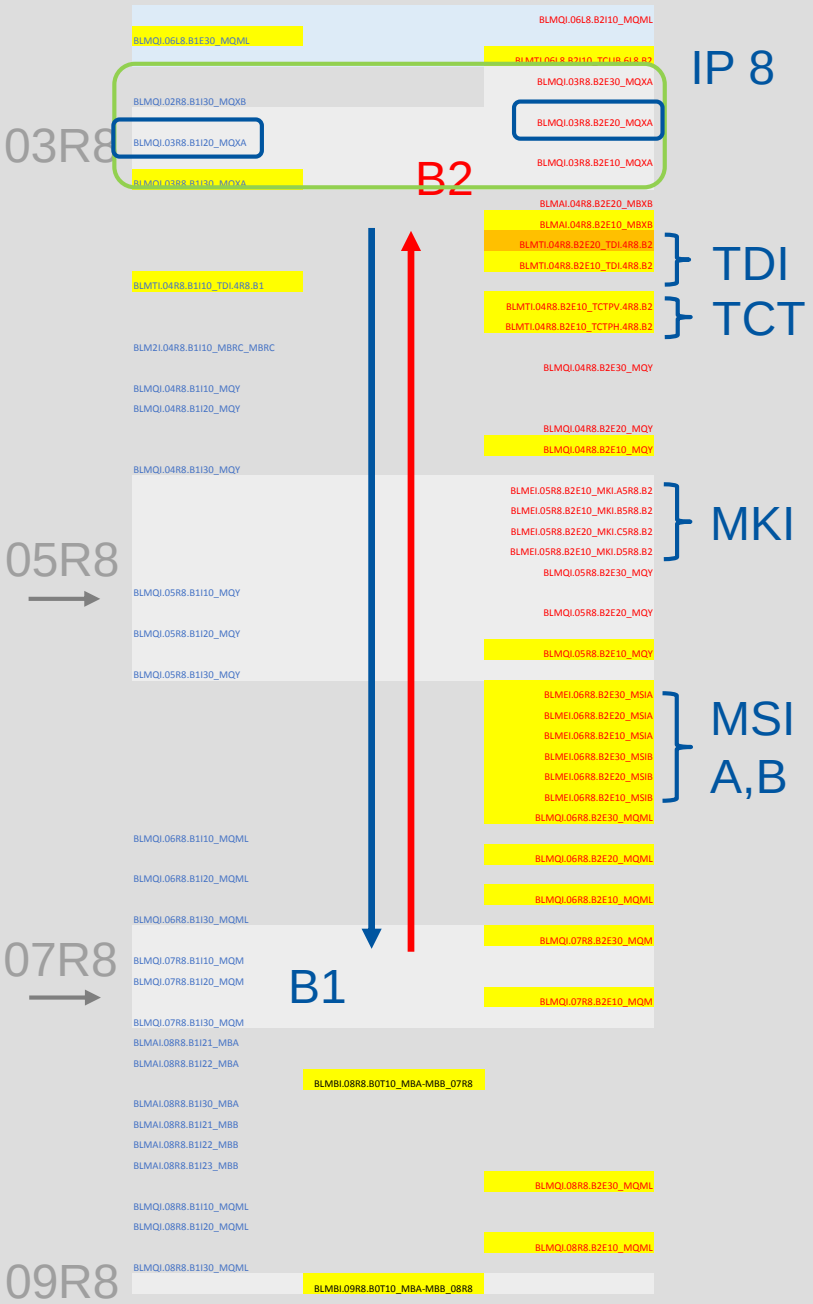
THRI.IP28.P3_MQXA_INJ_FT (1)

THRI.IP28.P3_MQXA_RC_INJ_FT (1)

THRI.IP28.P3_MQXB_FT (1)







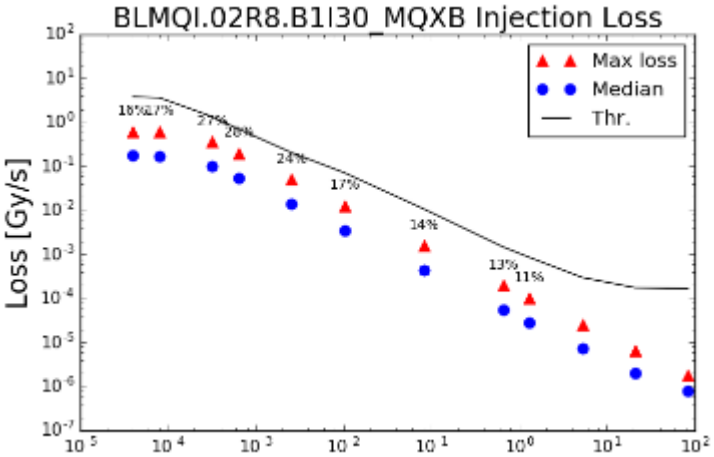
THRI.IP28.P1_MQXA_FT (1)

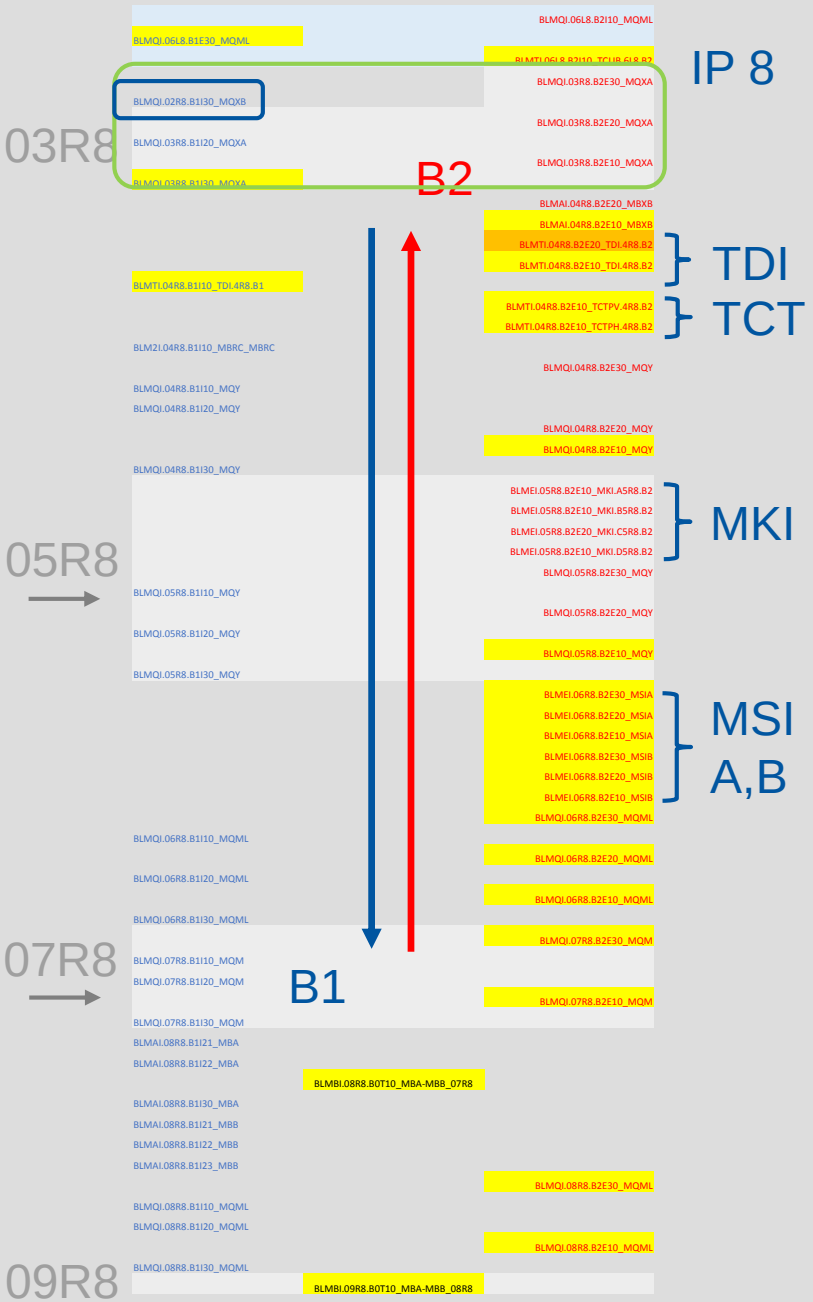
THRI.IP28.P2_MQXA (2)

THRI.IP28.P3_MQXA_INJ_FT (1)

THRI.IP28.P3_MQXA_RC_INJ_FT (1)

THRI.IP28.P3_MQXB_FT (1)





Summary

- Highest loss to threshold ratio during the injection is in the TDI families, which will be mitigated after the filter change
- BLMs in the MQXA,B families without INJ corrections have seen losses near warning levels during the injection.
- MKI families have flat thresholds
- All LS.P3_MQxxx families have flat thresholds