

# Changes to BLM thresholds during TS2

## LHC-BLM-ECR-0038

Matti Kalliokoski, Bernhard Auchmann, Eva Barbara Holzer, Alessio Mereghetti, Stefano Redaelli

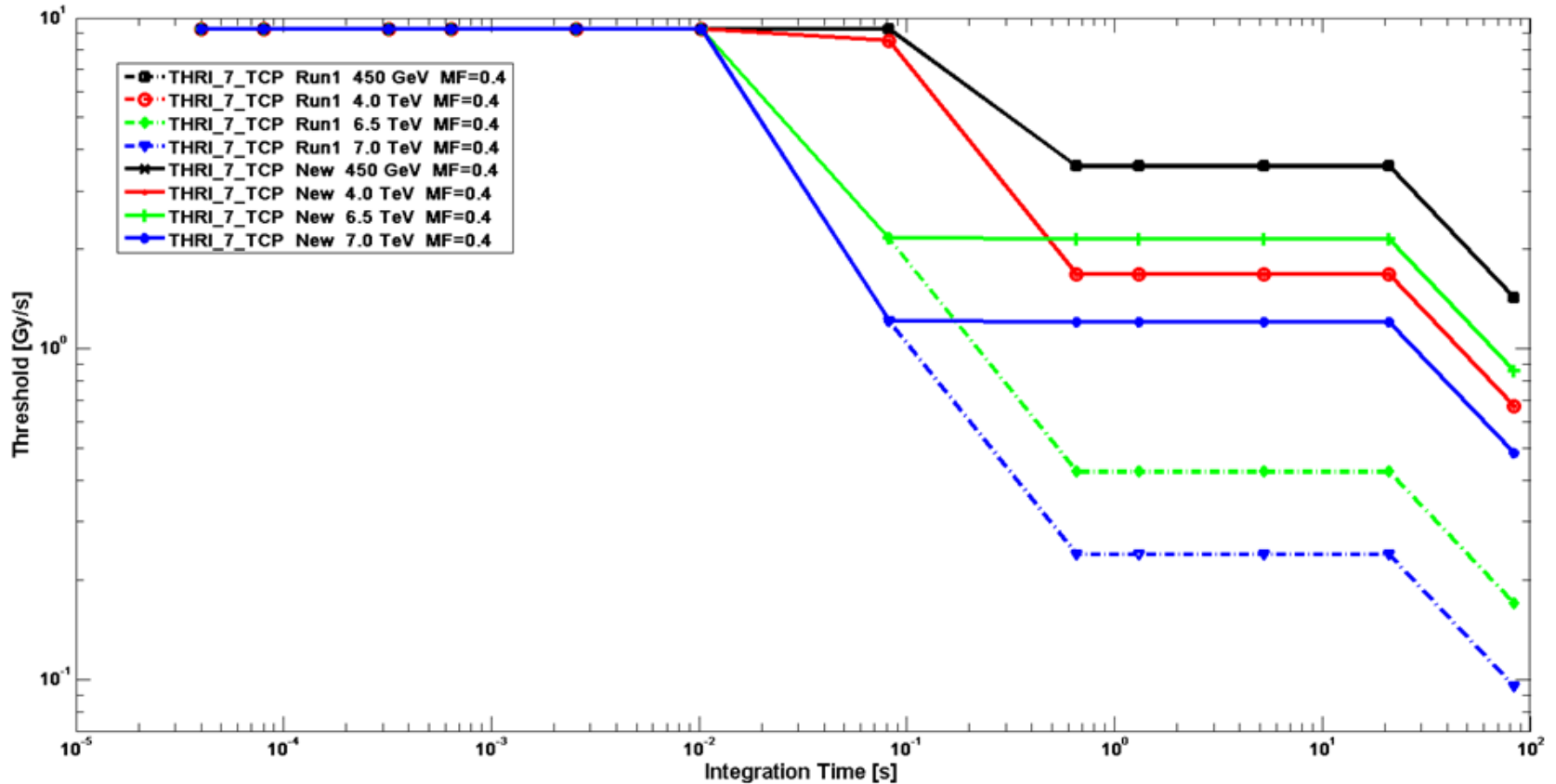
115<sup>th</sup> SPS and LHC Machine Protection Panel Meeting

28/08/2015

# Changes to IR7 collimator thresholds

- A. Mereghetti: 113<sup>th</sup> MPP Meeting
- Affects THRI\_7\_TCP; THRI\_7\_TCSG and THRI\_7\_TCSG\_F5; THRI.06\_7\_AB\_TCLA, THRI.06\_7\_CD\_TCLA and THRI.07\_7\_AB\_TCLA families
  - 41 monitors
- Ad-Hoc factor correction to RS09 and fix to RS09 to get FT at top energies
  - Keep RS12 at 200 kW with an additional 0.4 factor correction
- No MF changes

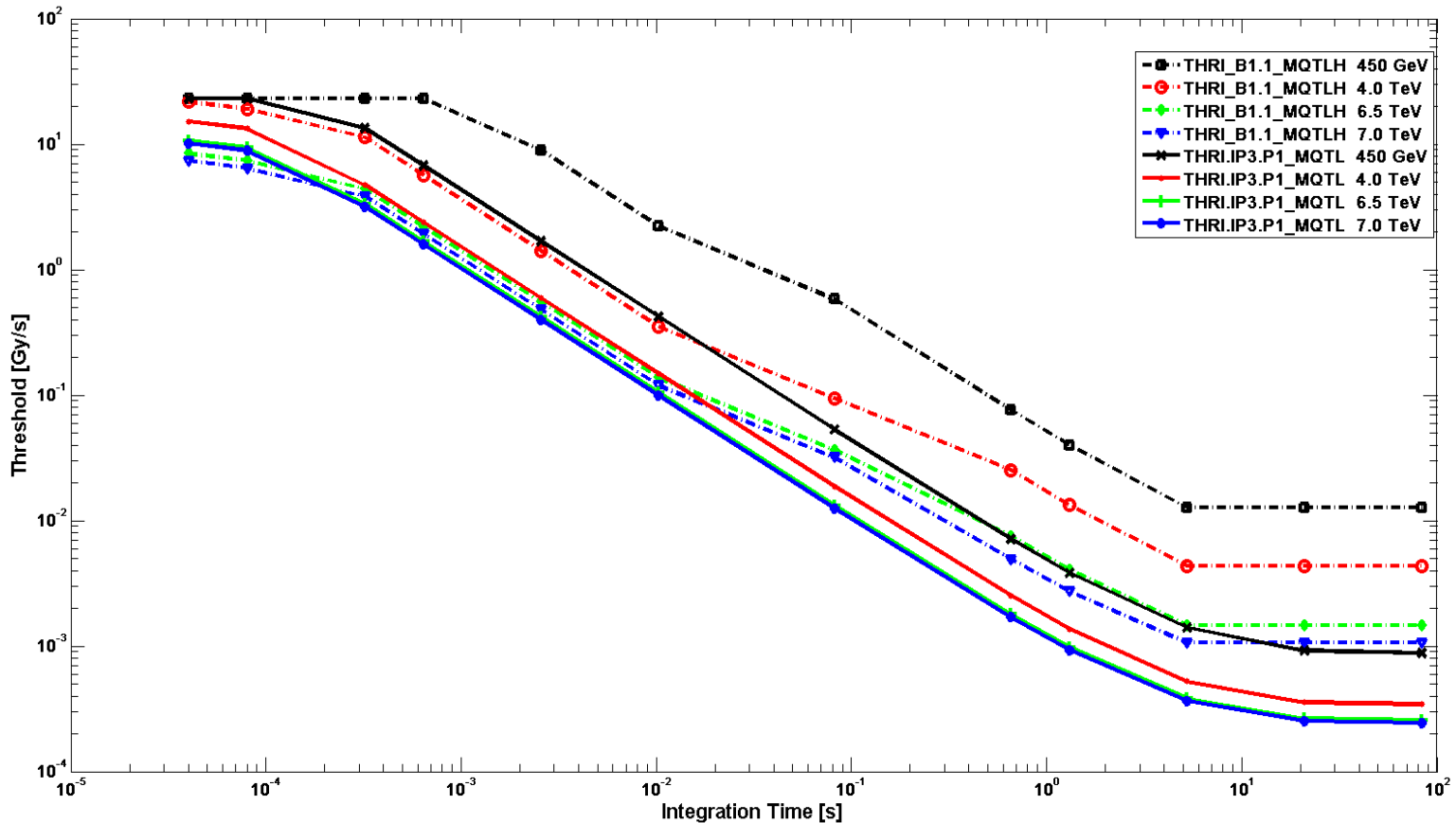
# THRI\_7\_TCP



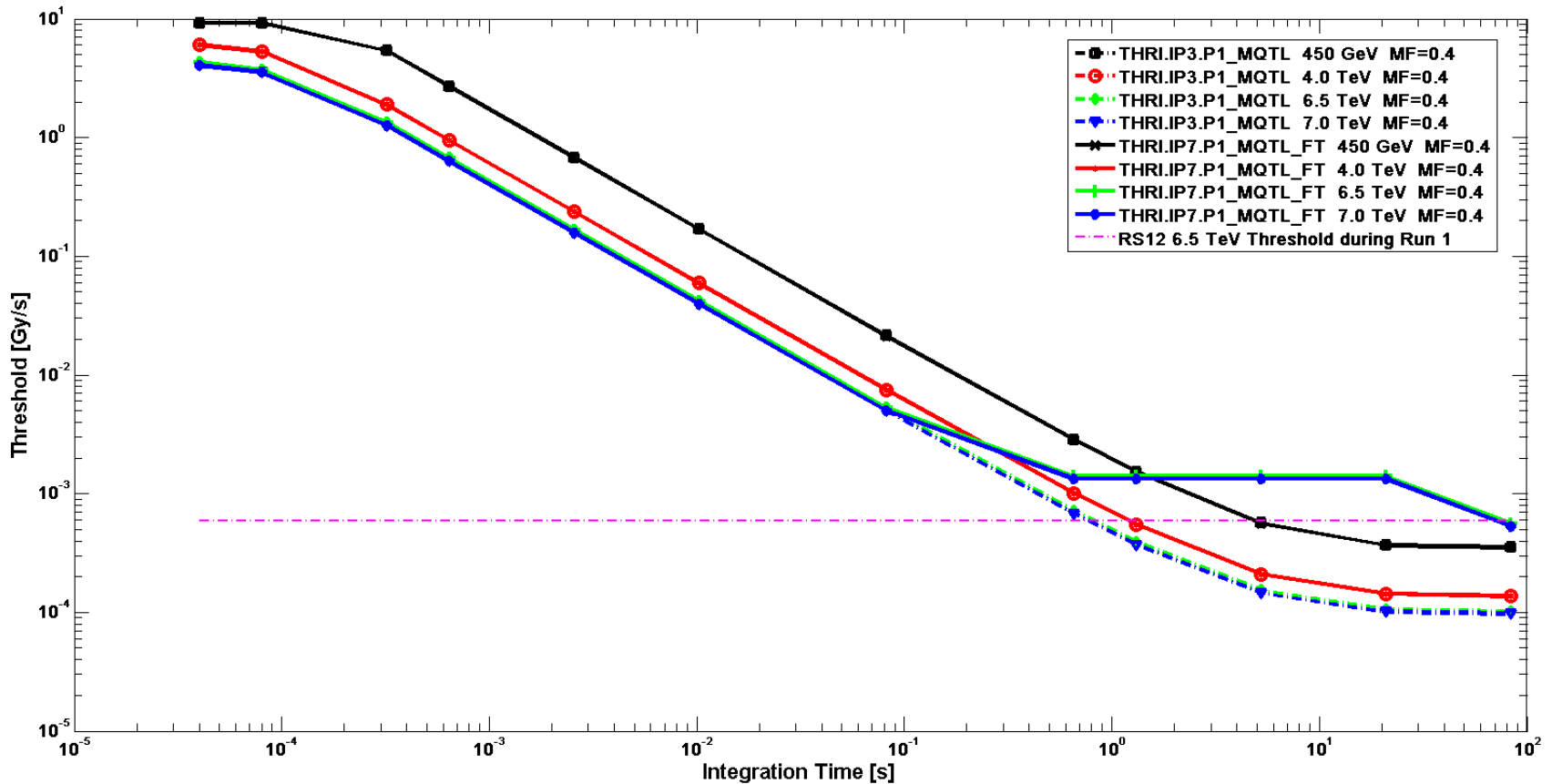
# Changes to cold magnet thresholds in IRs 3, 6 and 7

- New threshold models were calculated during LS1 but were not implemented to MQTL
  - B. Auchmann 100<sup>th</sup> MPP Meeting
- Since additional corrections to the new models were required IR7, it was decided to introduce the new models to IR3 monitors at the same time
  - Changes the thresholds of position 1 and 2 monitors
  - MF at 200 kW from to 0.4 and to 0.1 respectively
  - Position 3 monitors will remain in a set to MAX family
  - 24 monitors

# THRI.IP3.P1\_MQTL



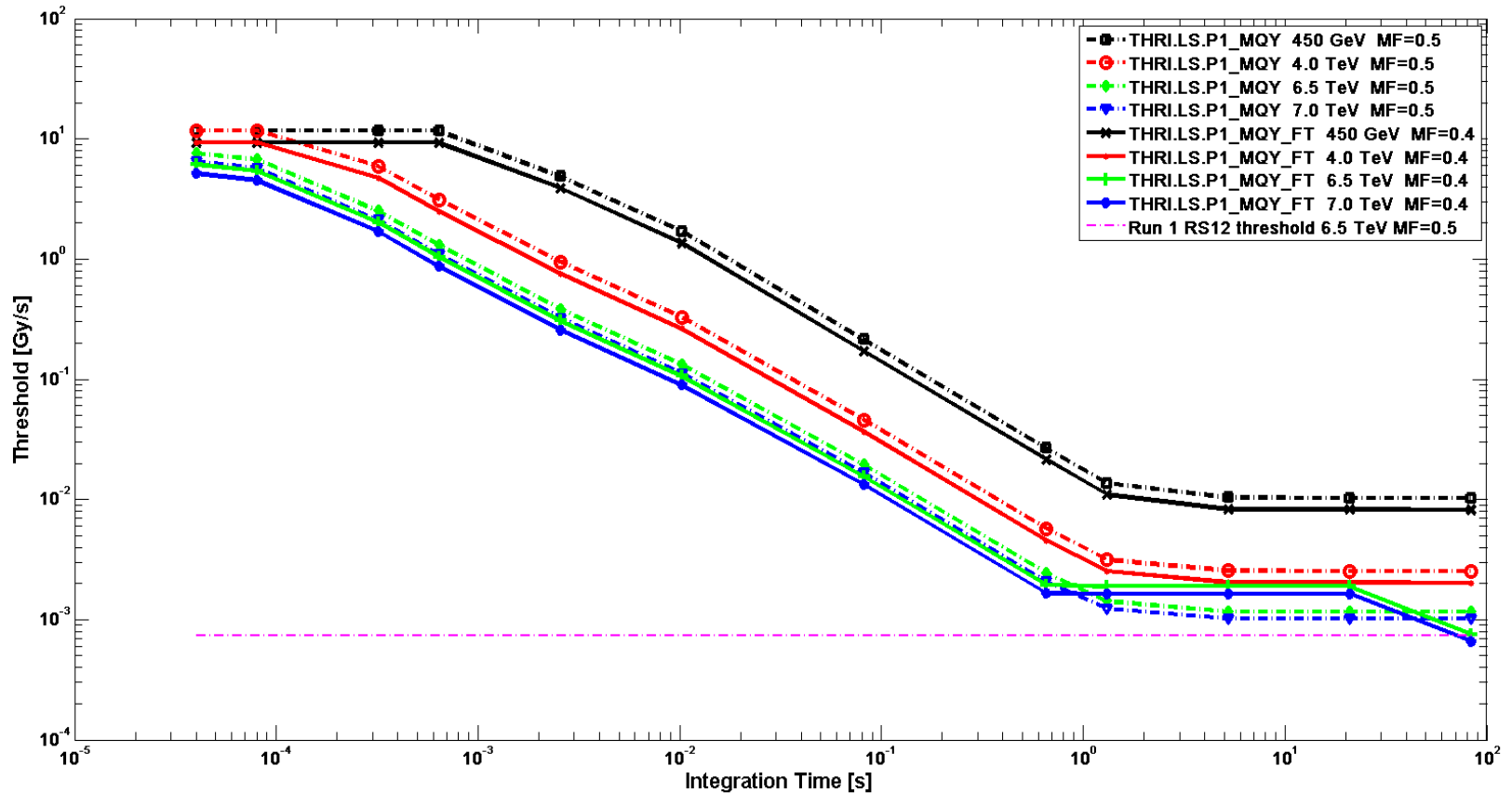
# THRI.IP7.P1\_MQTL\_FT



# Changes to cold magnet thresholds in IRs 3, 6 and 7

- For the MQY monitors, new thresholds had already been implemented
- FT correction required only for P1 monitors in IR6
  - MF will be changed from 0.5 to 0.4
  - 8 monitors

# THRI.LS.P1\_MQY\_FT

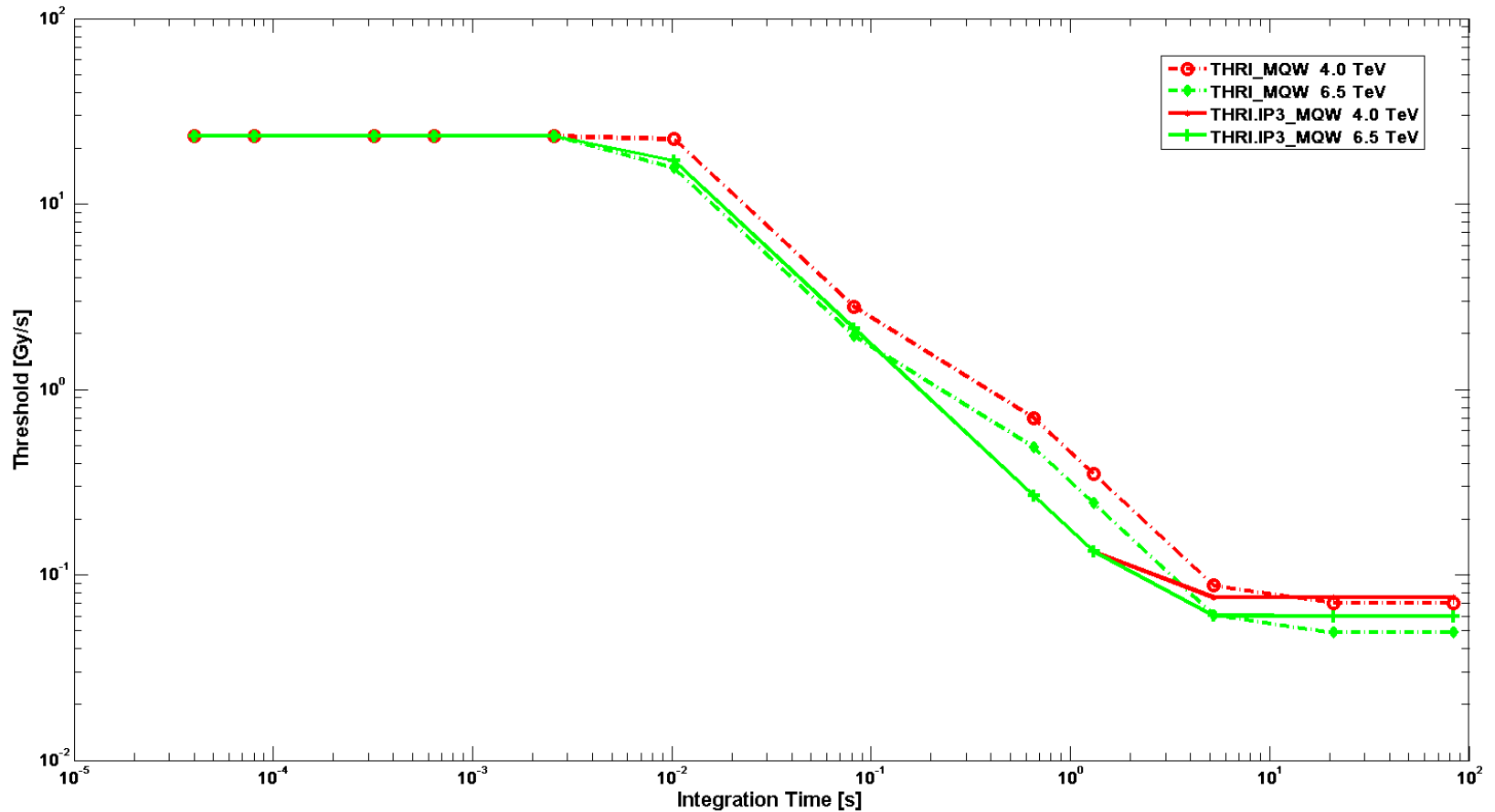




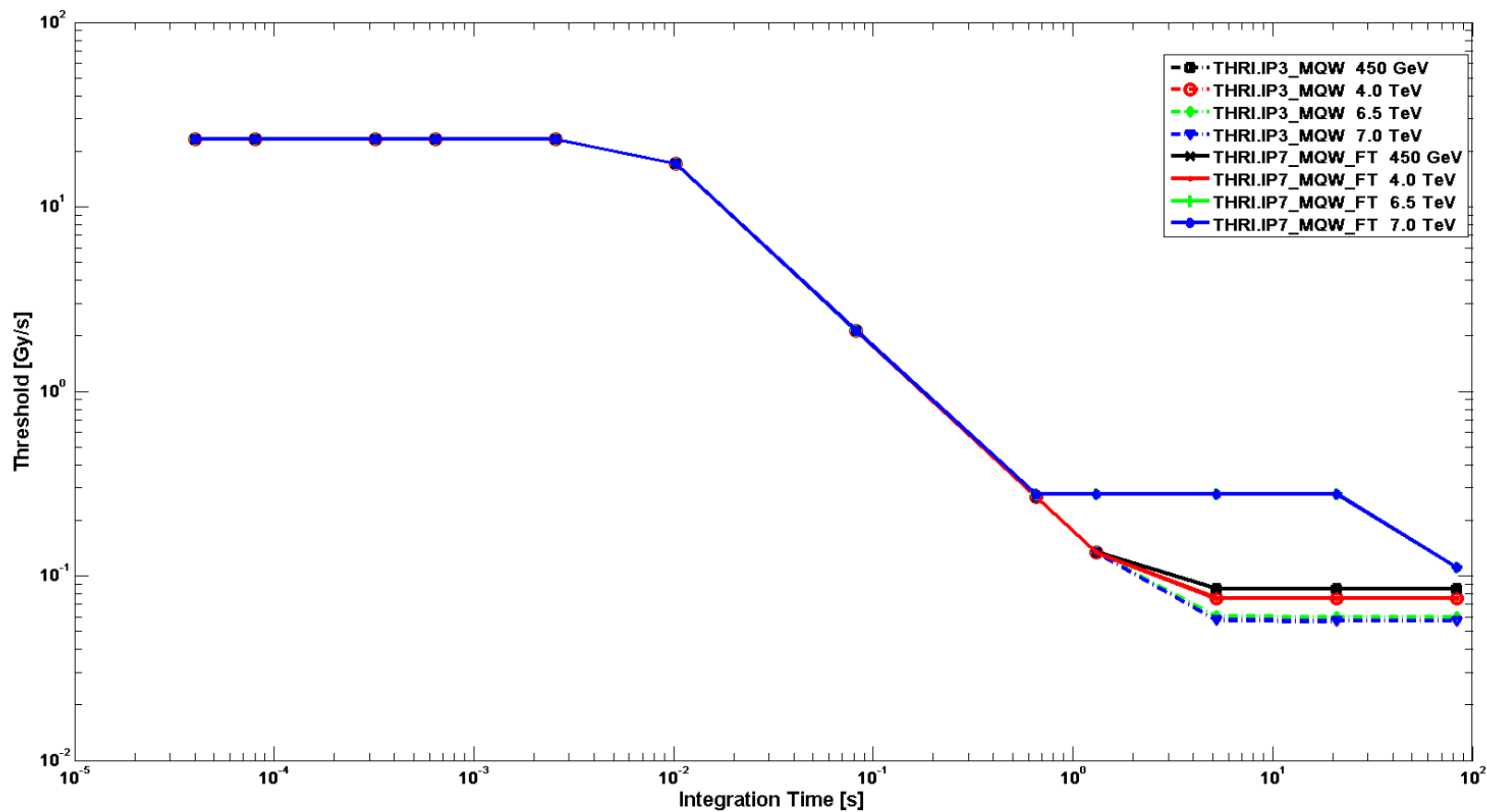
# Changes to warm magnet thresholds

- Similarly to MQTL thresholds, new models to MQW monitors had been calculated but not yet implemented
- MF to 0.4
- 48 monitors

# THRI.IP3\_MQW



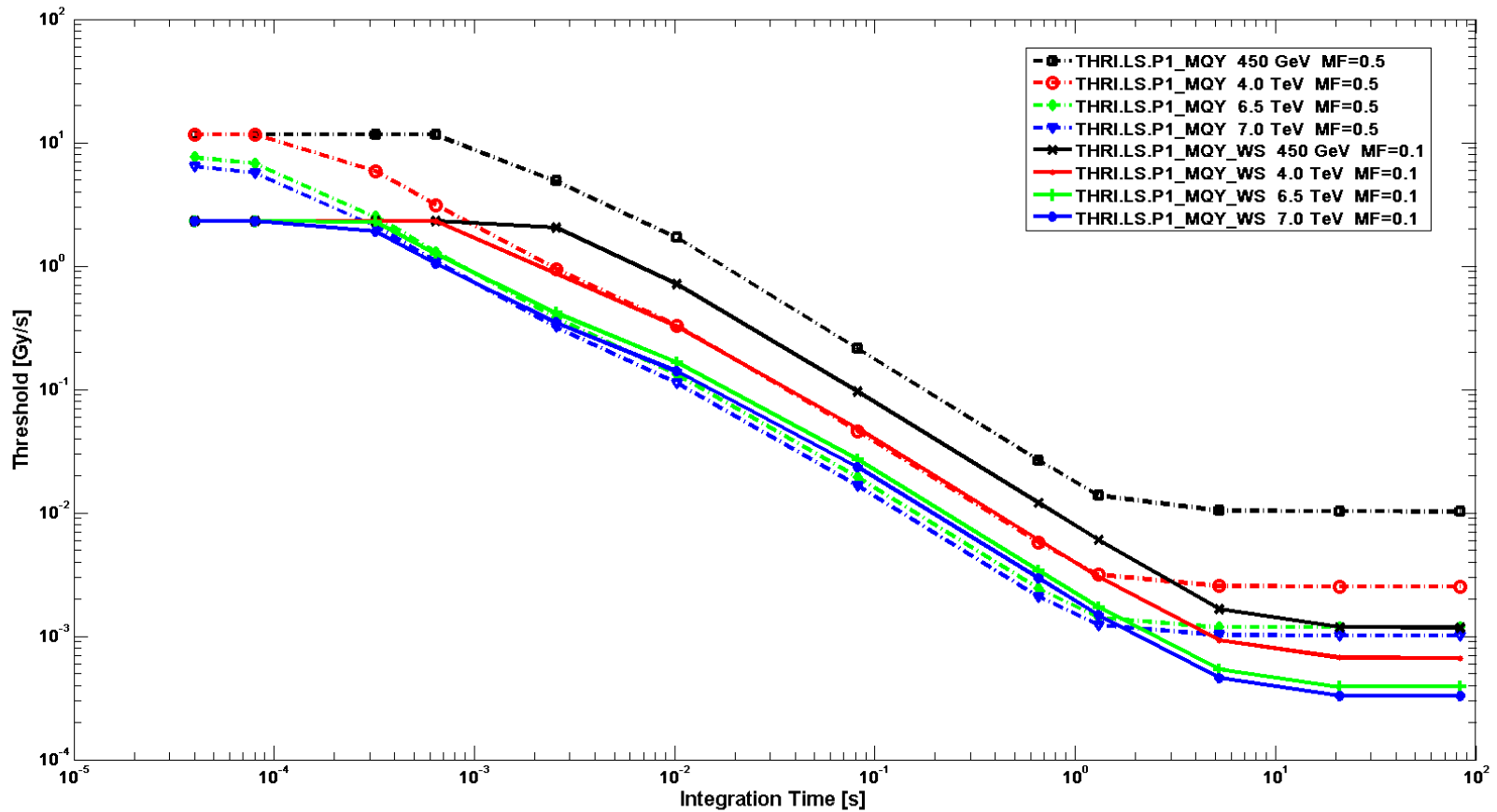
# THRI.IP7\_MQW\_FT



# Wireshcanner monitors

- Only cell 5 MQYs were assigned to a dedicated WS families
- From measurements it was seen that also some cell 6 monitors should be in the WS families
  - 4 monitors
  - MF to 0.1

# THRI.LS.P1\_MQY\_WS

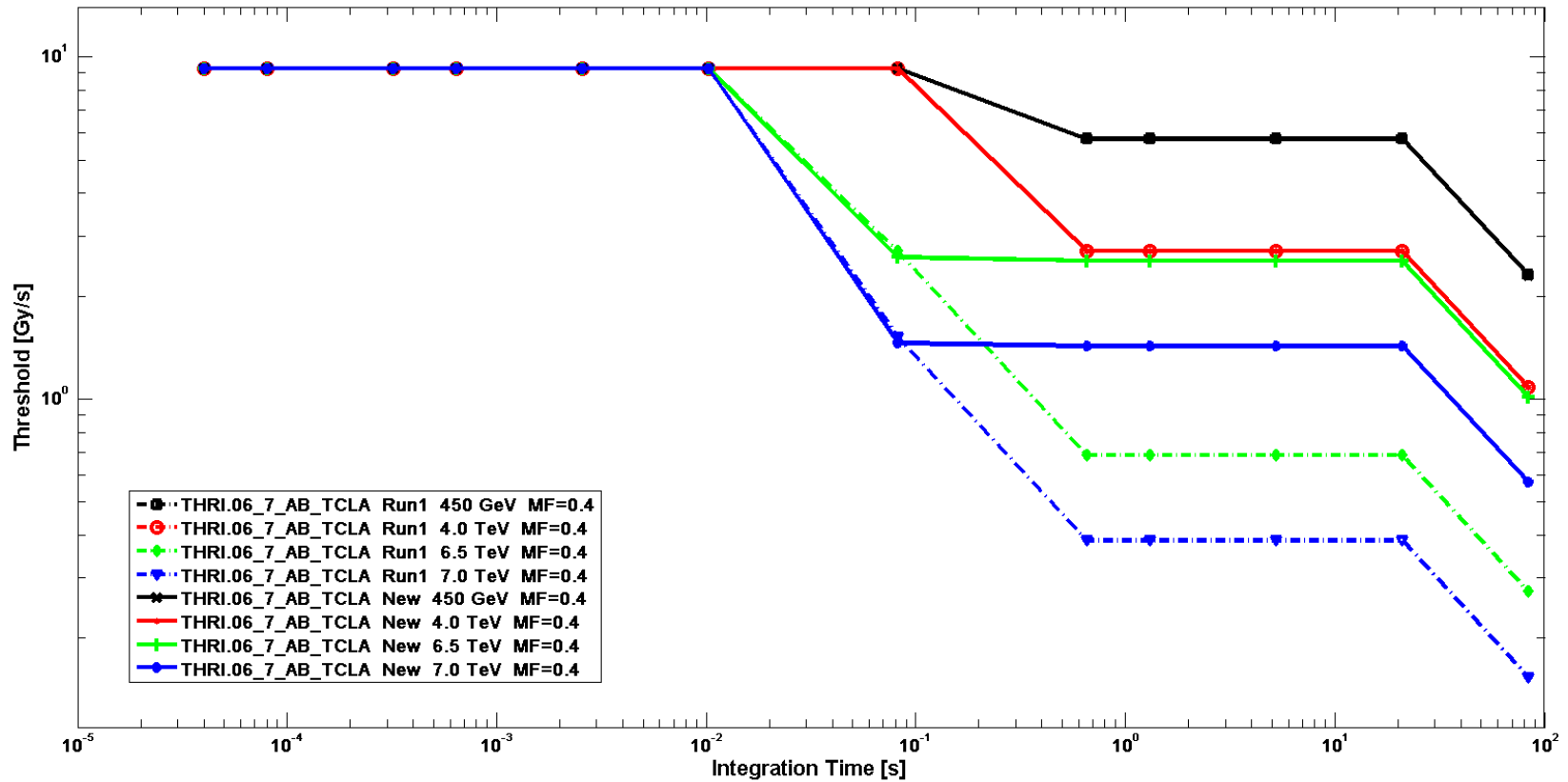


# Summary of Changes during TS2

- The plan is to write the changes to electronics on Monday 31<sup>st</sup>
  - Preparation of the master thresholds is already done
    - Families have been created and the monitors have been relocated in the Final table level
    - Validation of the changes is ongoing
  - MF changes to 76 monitors
- LHC-BLM-ECR-0038
  - Threshold changes: IR3, 4, 6 and 7
  - Monitor name changes: IR 5
    - Obsolete XRP monitors in cell 5 get –RUN1 extension
      - Helps in finding and removing them during YETS2015
    - BLMQI.06R5.B1E20\_MQML will get \_XRP extension
      - Was forgotten during the last name changes
      - Extension helps in finding the monitors during Roman Pot alignment

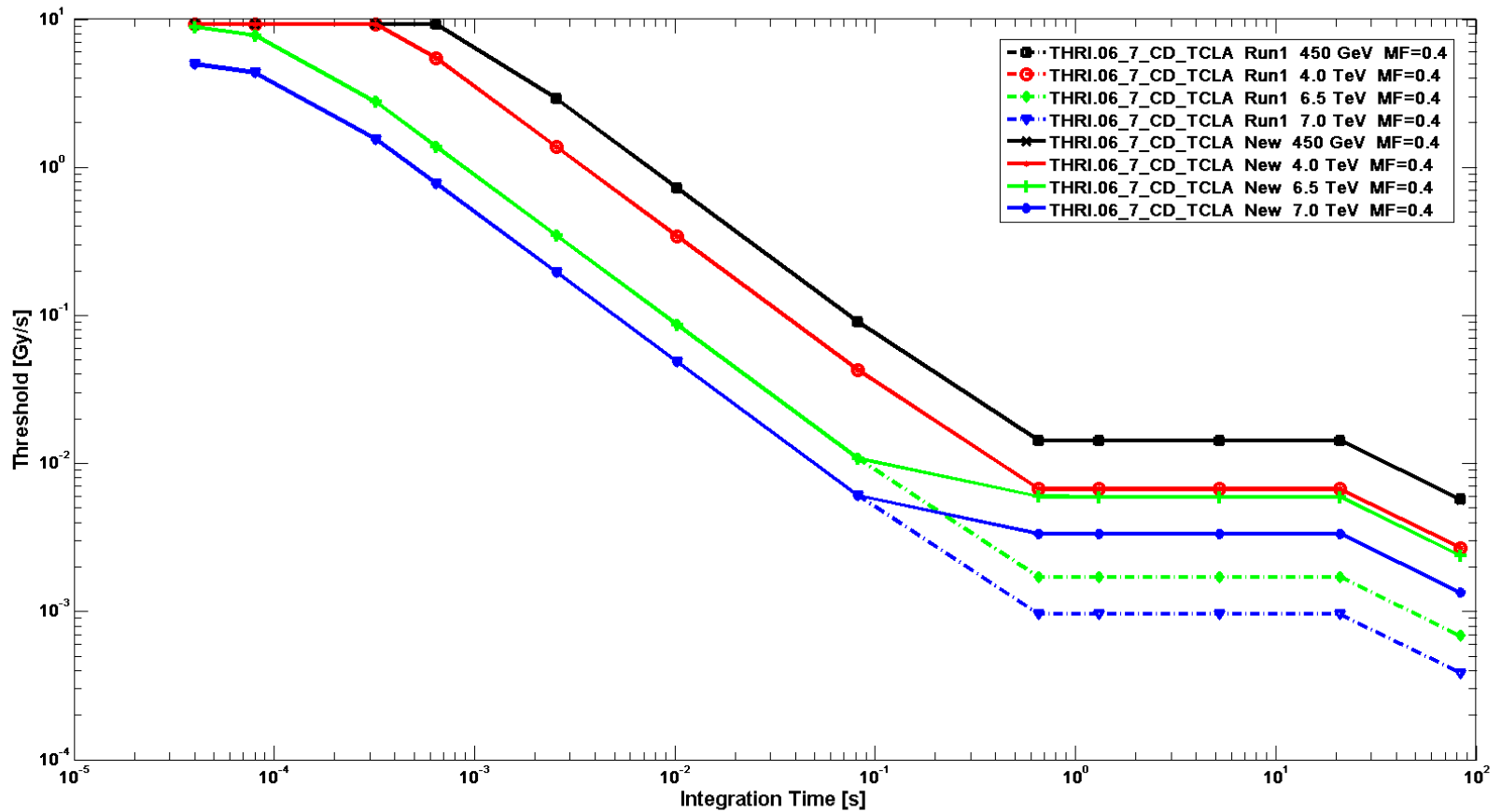
# Threshold Plots

# THRI.06\_7\_AB\_TCLA

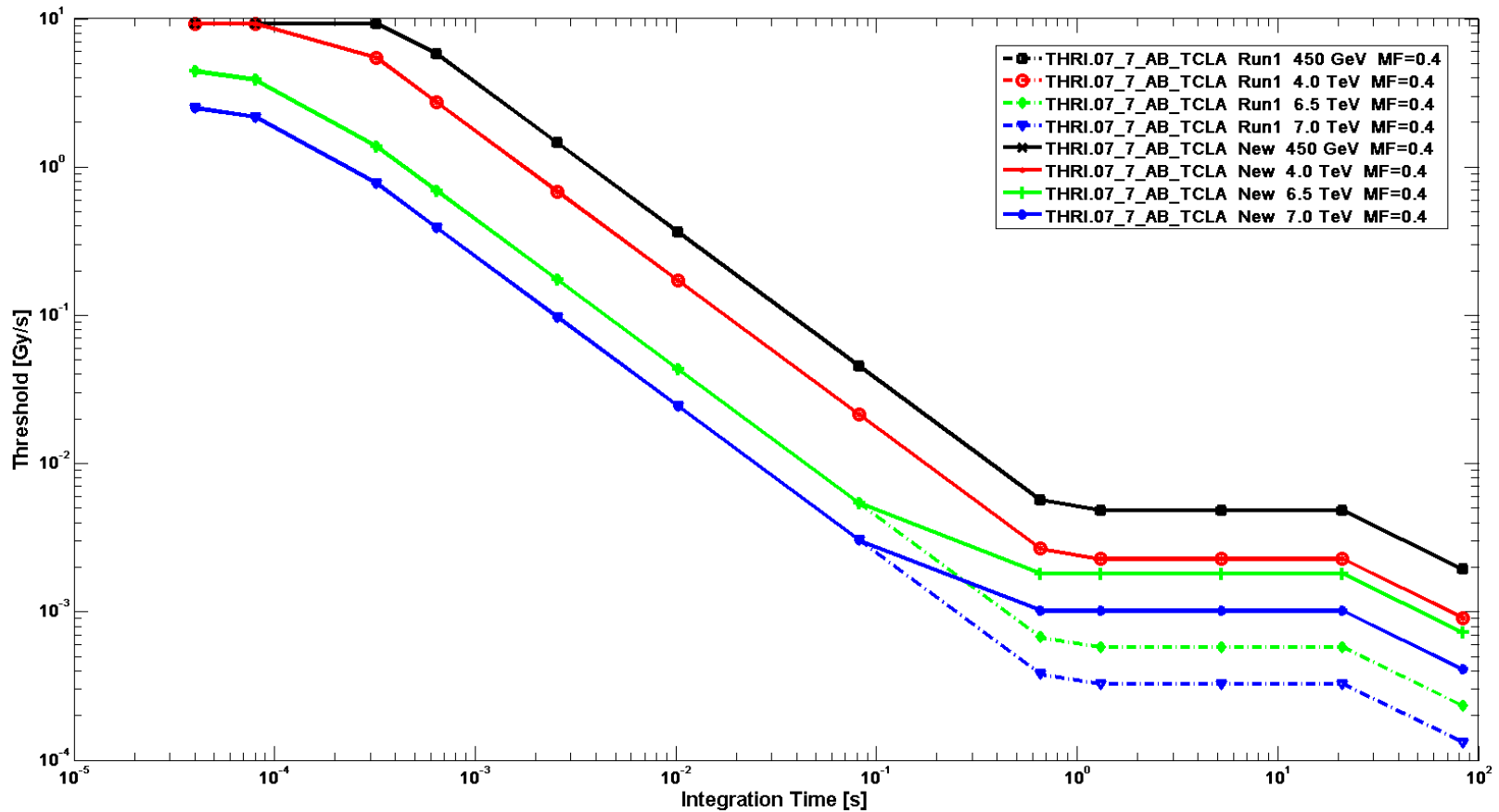




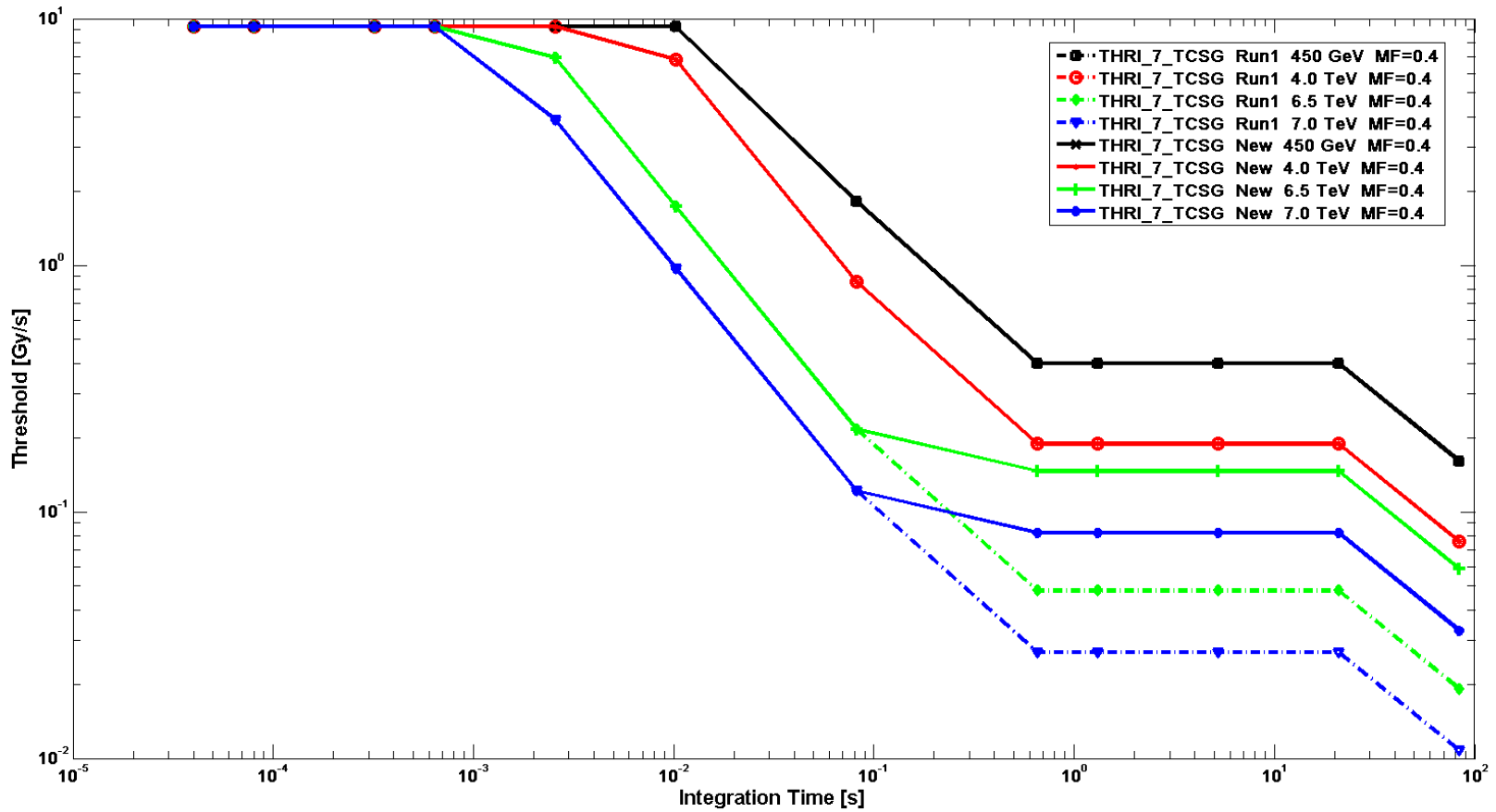
# THRI.06\_7\_CD\_TCLA



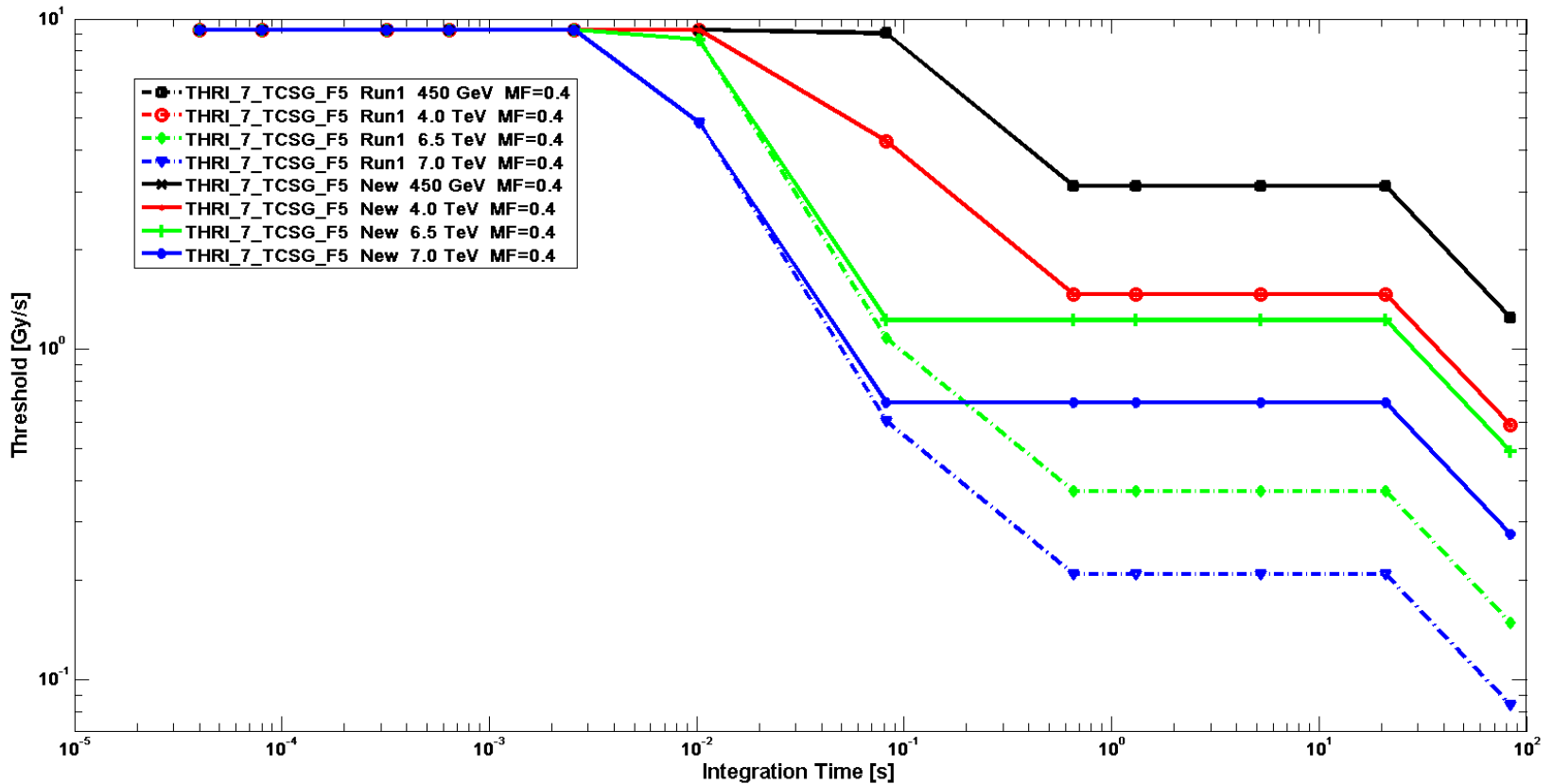
# THRI.07\_7\_AB\_TCLA



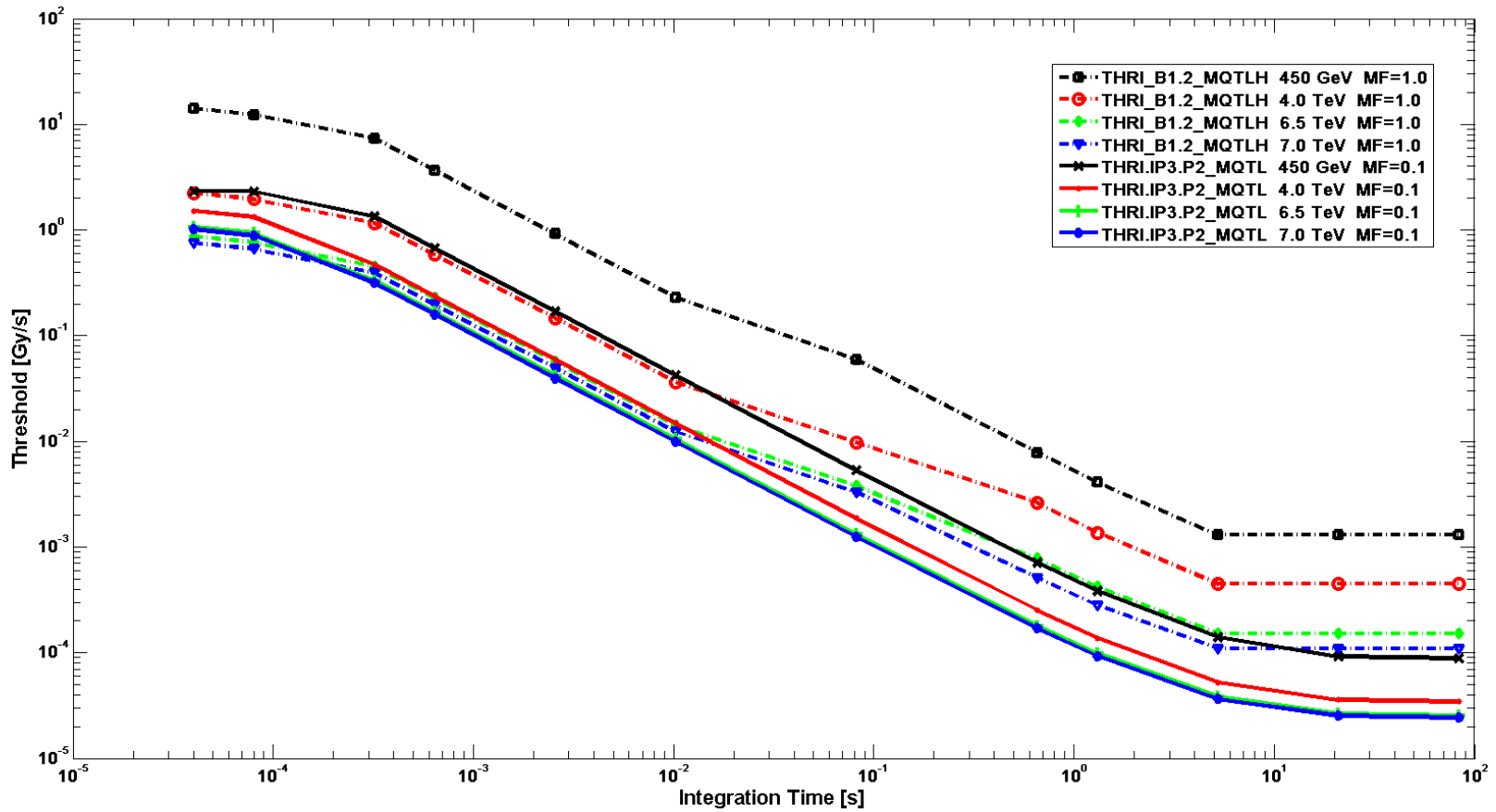
# THRI\_7\_TCSG



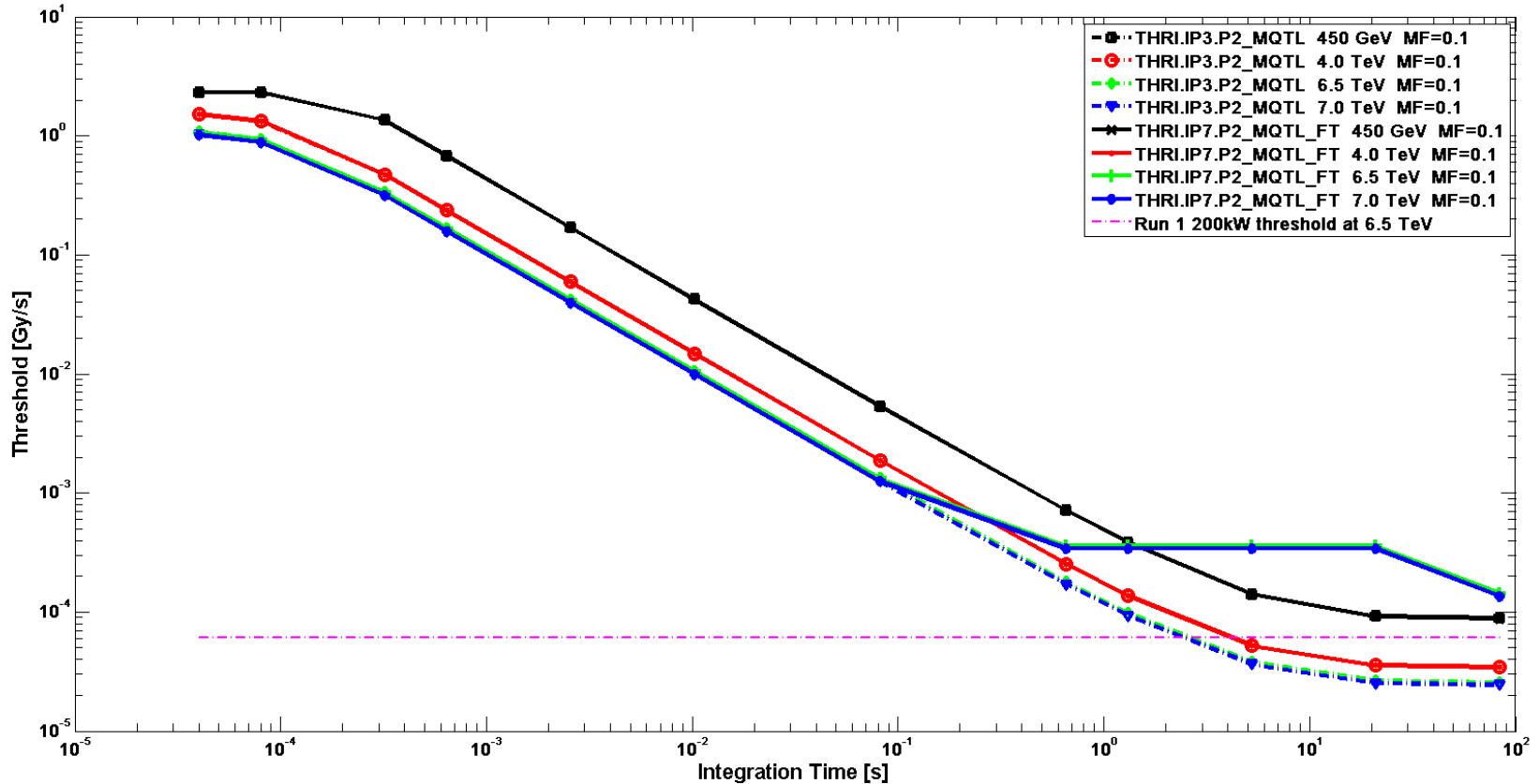
# THRI\_7\_TCSG\_F5



# THRI.IP3.P2\_MQTL



# THRI.IP7.P2\_MQTL\_FT



# THRI.LS.P2\_MQY\_WS

