



BLM thresholds in IR7

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Outlook

- Recall and monitors (families) affected
- Comparison of new/old thresholds
- Summary and conclusions

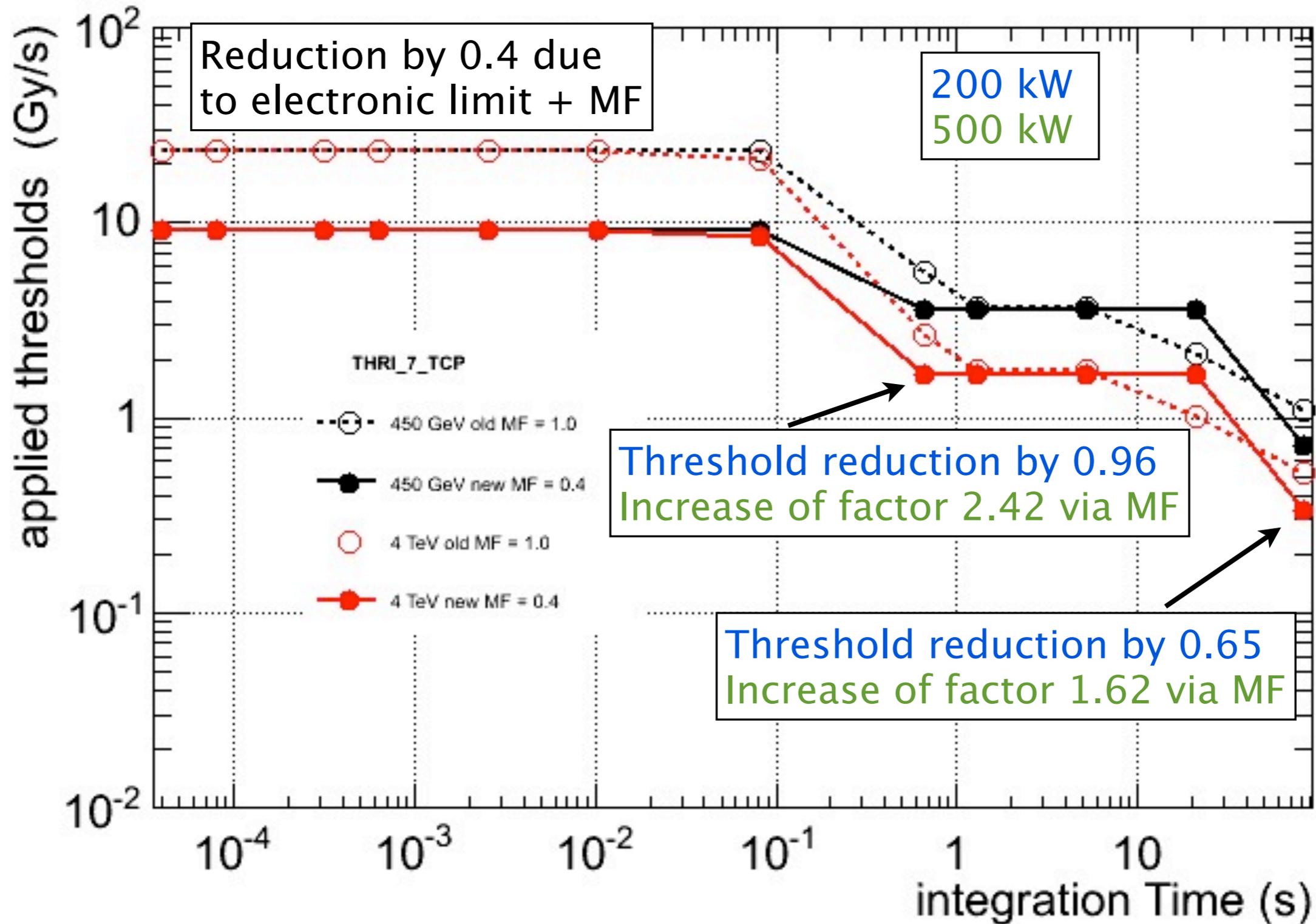
Recall

- Some fills dumped by beam losses at primary collimators with ~ 50-60 kW. Losses in this fills were compared with losses during loss maps and BLM thresholds were calculated for higher power loss.
- Collimation system is designed for 500 kW losses in IR7 for up to 10 s (100 kW continuously)
- Losses observed in dumps during LHC operation close to loss maps. Loss maps used to define new thresholds

Family name	App thres (Gy/	MF	# of monitors	Factor increase
THRI 7 TCP	1.7500	1	6	2.5
THRI TCP RC	1.7500	1	2	3.8
THRI 7 TCSG	0.1750	1	13	2.7
THRI 7 TCSG F5	0.8751	1	10	4.2
THRI.06 7 A TCLA	2.1880	1	2	3.0
THRI.06 7 B TCLA	2.1880	1	2	3.1
THRI.06 7 C TCLA	0.0035	0.2	2	4.4
THRI.06 7 D TCLA	0.0035	0.2	2	4.8
THRI.07 7 A TCLA	0.0018	0.1	2	3.3
THRI.07 7 B TCLA	0.0018	0.1	2	< 1.0
THRI MOW	0.18	0.5	48	1.8

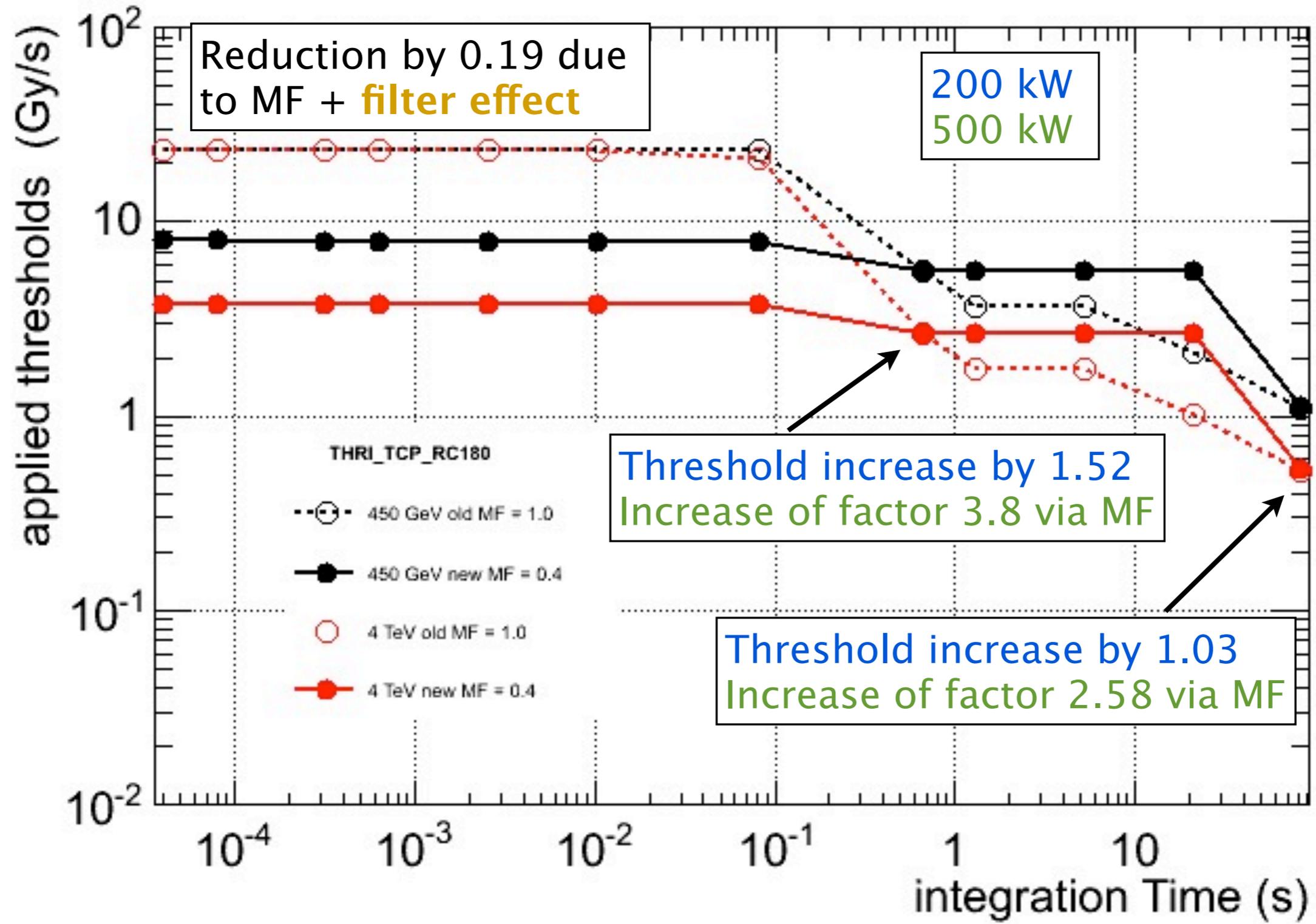
THRI_7_TCP

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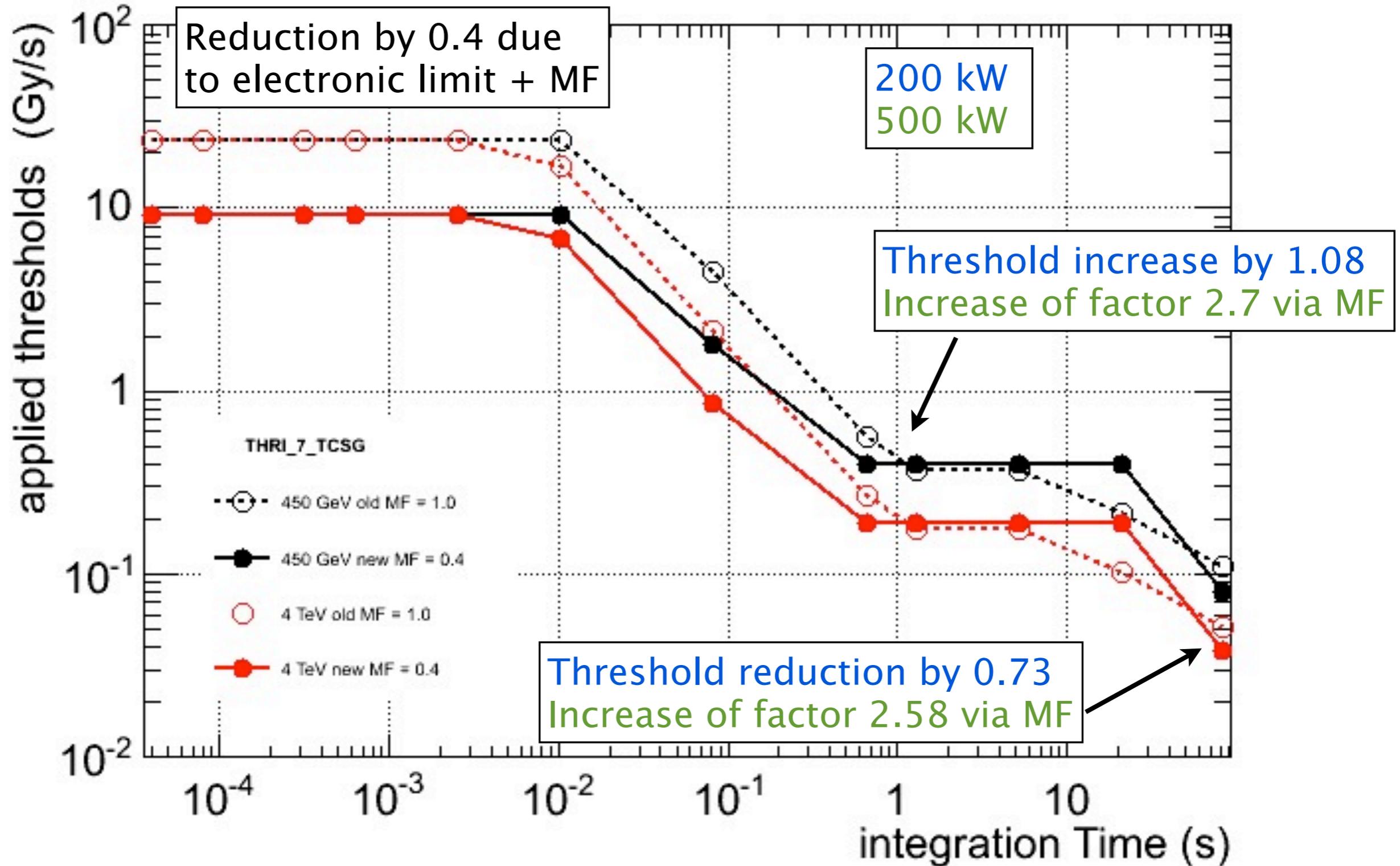
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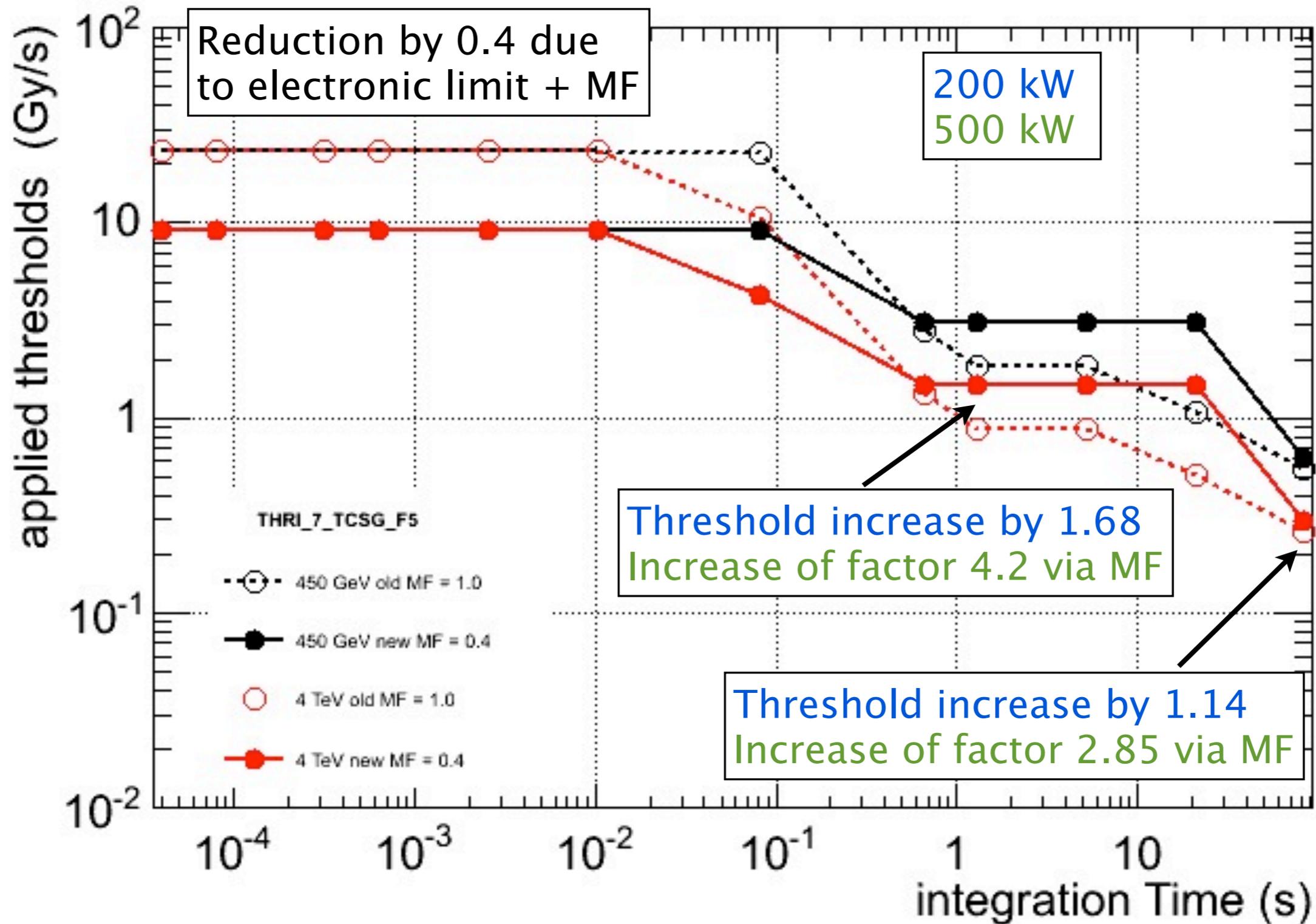
THRI_7_TCSG

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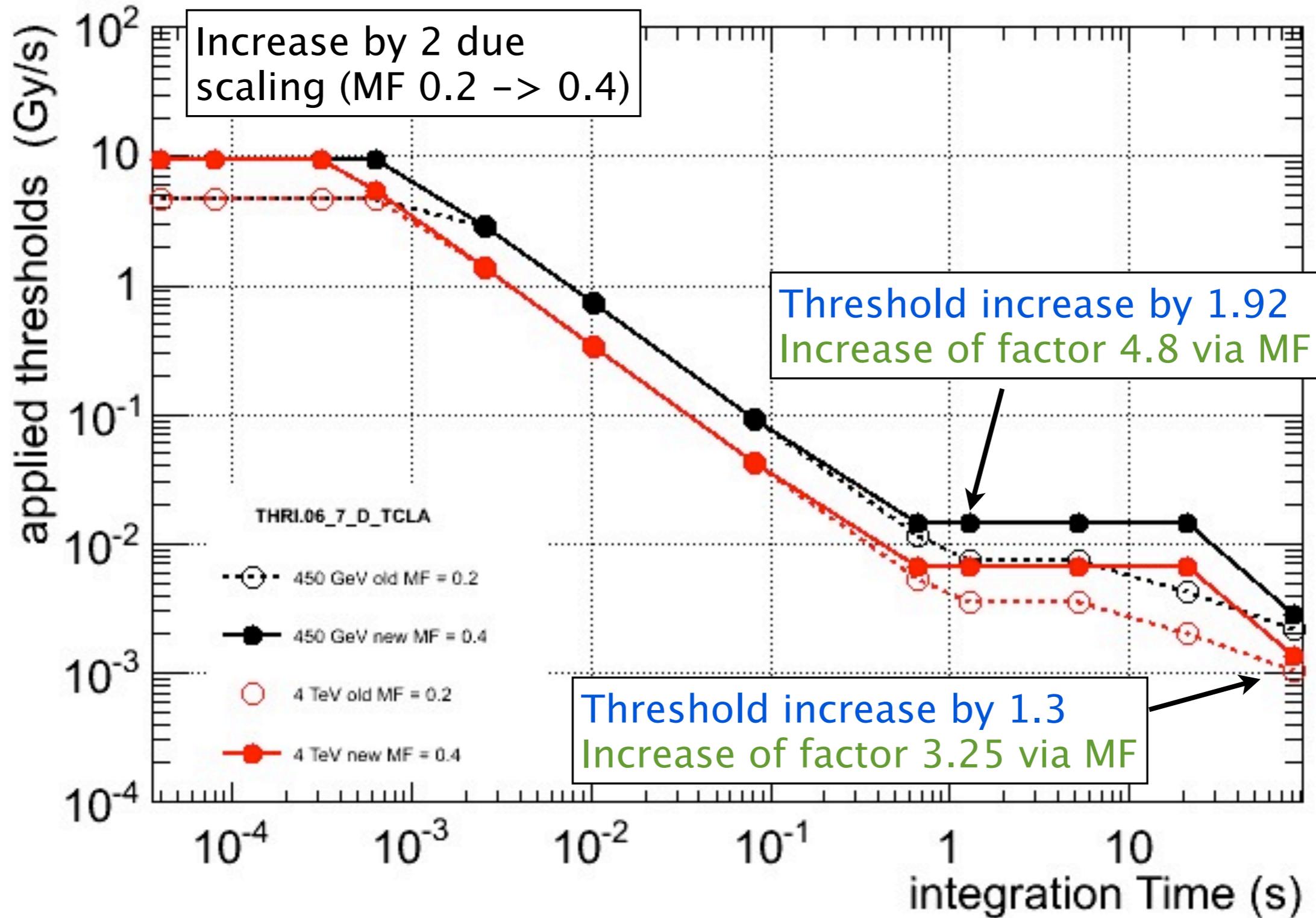
THRI_7_TCSG_F5

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THRI.06_7_C/D_TCLA

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Summary and Conclusions

- Thresholds adapted to be able to reach 500 kW (100 kW) in the 1.3 s (83 s) running sum and above via MF.
- $MF = 0.4 \implies 200 \text{ kW (40 kW)}$ in the 1.3 s (83 s) running sum
- Allowed dose rate constant between 0.655s and 20 s.
- In order to not dump in previous integration windows RS08 (0.655 s) is required increase to be increased to the same dose rate as in RS09.
- Thresholds generally decrease by 2.5 in the short RS due to the use of the MF
- TCP_RC adapted to include filter effect