Optics flexibility in IR3/7

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Remark: design effort to analyse possible improvements to the IR optics on-going (S. Fartoukh).

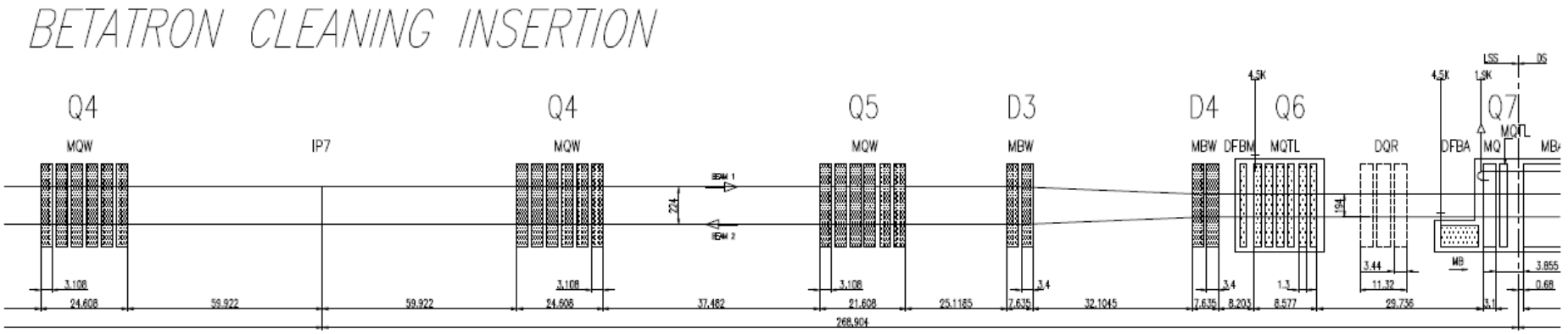
Acknowledgements: P. Fessia, S. Redaelli, T. Risselada.

Injection configurations - I

- New optics in IR3/7?
  - Trigger: recuperate warm magnets to increase the number of spares. Preliminary conclusions:
    - In IR3 no MQWB can be removed without changing the optical conditions at the collimators.
    - In IR7 the MQWB modules in the two Q5 may be removed without changing the optical conditions at the collimators (2 spare magnets).
    - Any other change in the layout will generate a difference of optical condition at the location of the collimators -> Detailed validation of the optics with simulations is required before taking any decision.

Analysis made by T. Risselada

Option to be explored in more details!



Injection configurations - II

- Alternative approach (after input from P. Fessia):
  - Highest dose delivered to the first magnet making the Q5 in IR7.
  - It could be advantageous to replace it with an absorber :
    - Detailed evaluation of the dose reduction to the second magnet by the installation of an absorber still to be done.
    - Time horizon of this change: LS2
  - Therefore:
    - Instead of removing the MQWB it should be re-configured as an MQWA.
    - This would restore the total integrated strength after replacement of one MQWA with an absorber.
    - All this corresponds to displacing the Q5 longitudinally:

Can the optics be kept reasonably constant in the collimation region?