

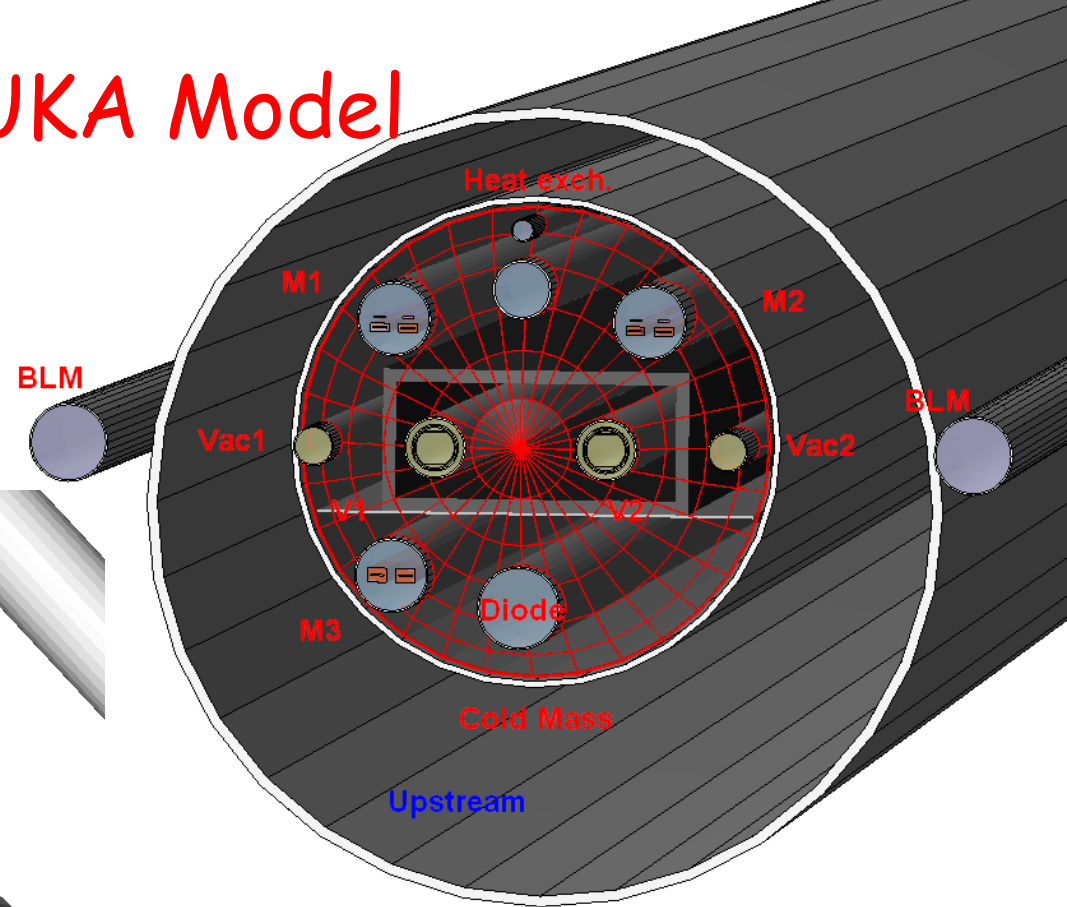
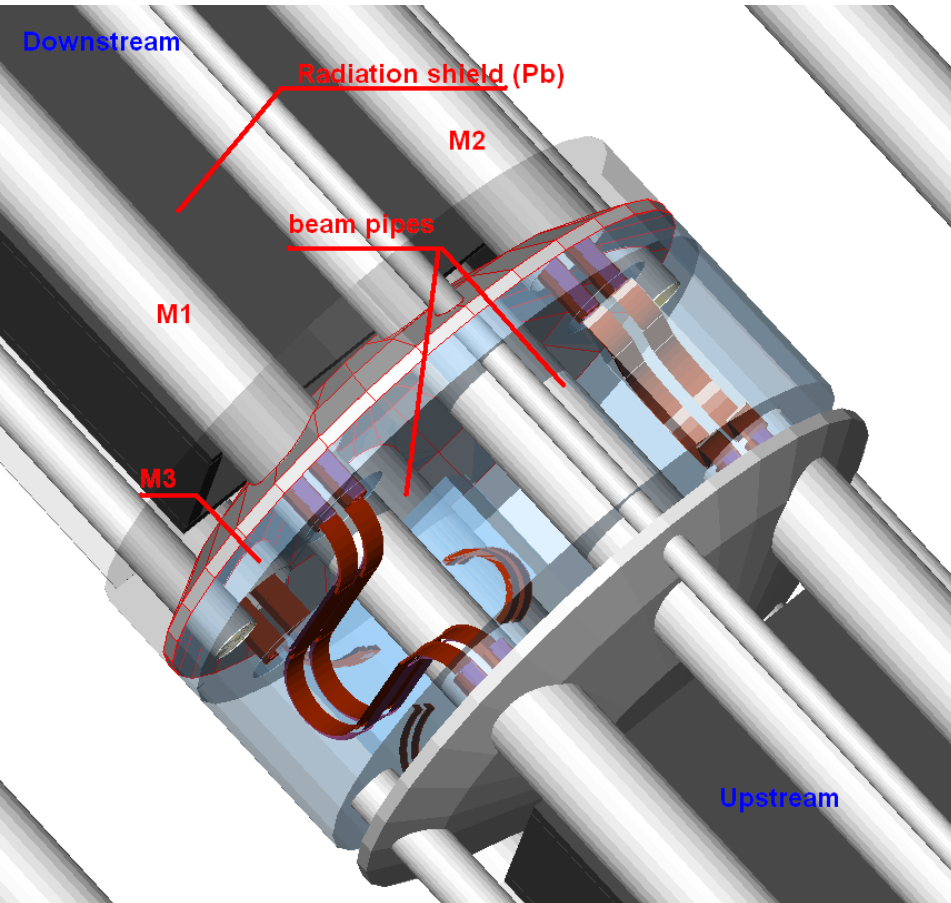
LMC, LHC Energy & Busbars....

- At the last LMC the DG announced that he intended to decide on the LHC beam energy for the 2009/10 run next Wednesday (05.08) after the LMC.

- For that reason all information relevant for the splice issues must be summarized next Wednesday:
 - R measurements at warm and cold.
 - A. Verweij's latest models.
 - Discharge time issues for mains.
 - Busbar quenches with beam.
 - ...

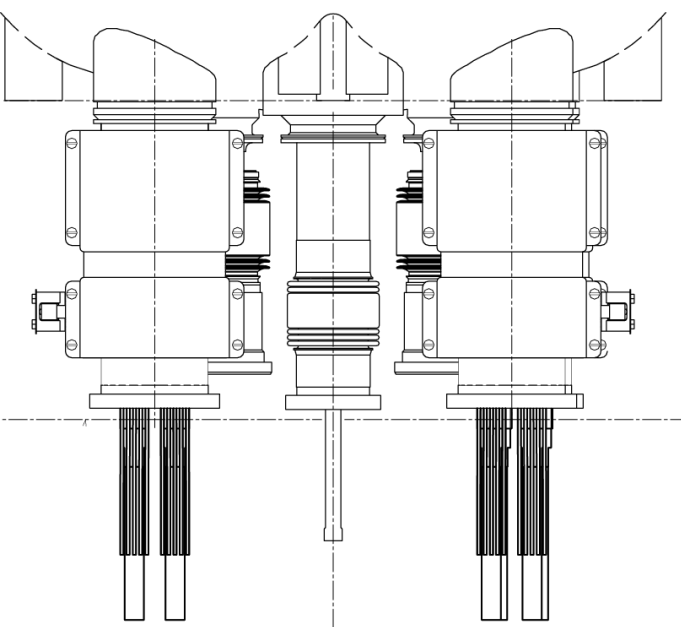
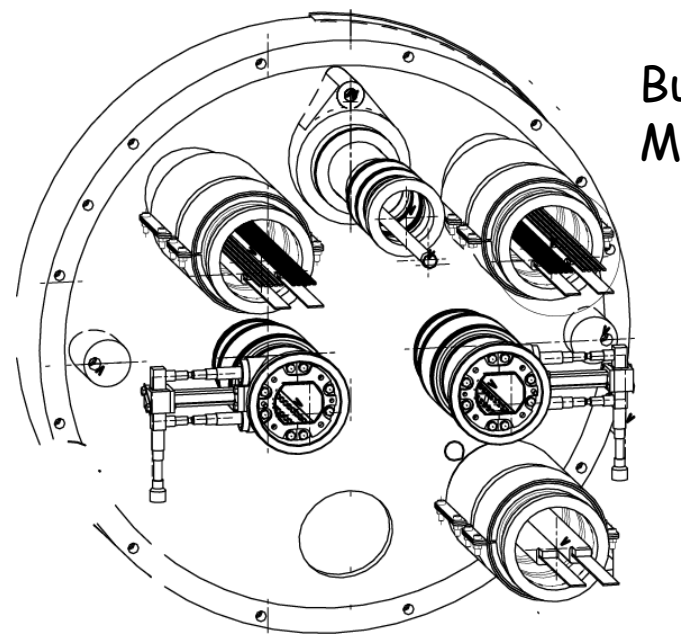
Empty Cryostat FLUKA Model

J. Blanco, M. Brugger, E. Lebbos



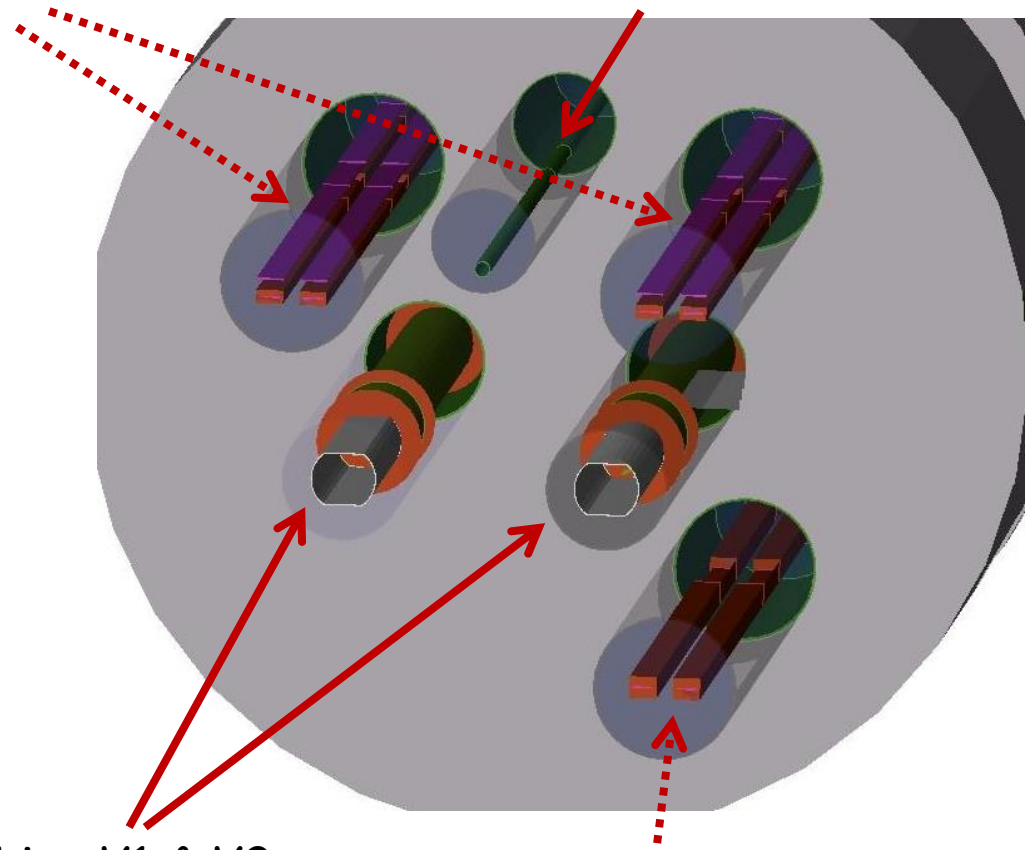
Jul 24th, 2009

Interconnection FLUKA Model



Bus Bar Quadrupole Line
M1 & M2

Linear Heat Exchanger X & Y

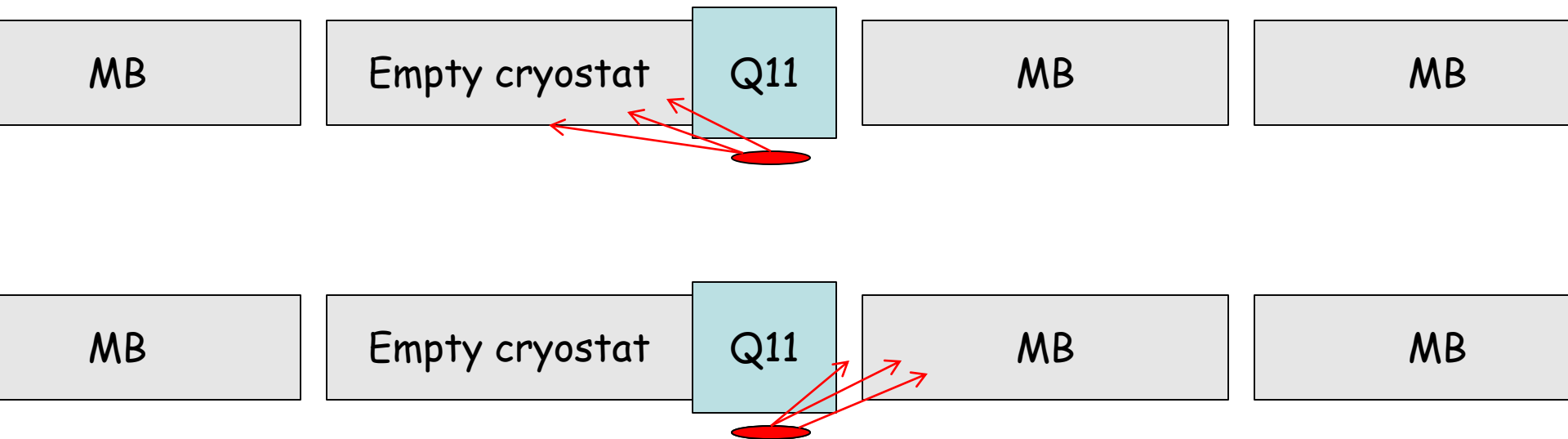


Beam Line V1 & V2

Bus Bar Dipole Line M3

FLUKA Simulations

- Geometries ready (except for DFBs).
- So far only test simulations were performed for the empty cryostat assuming a loss distributed over the whole length. Ideas was to start more serious stuff later in August.
- Following the last LMC, crash simulations will be made by FLUKA team over the weekend to get 'some feeling':
 - Impact over ~ 1 m at Q11 with beam from both directions.
 - Point impact at the exit of Q11 as a comparison.



Caution...

- The main question for the energy limit is:

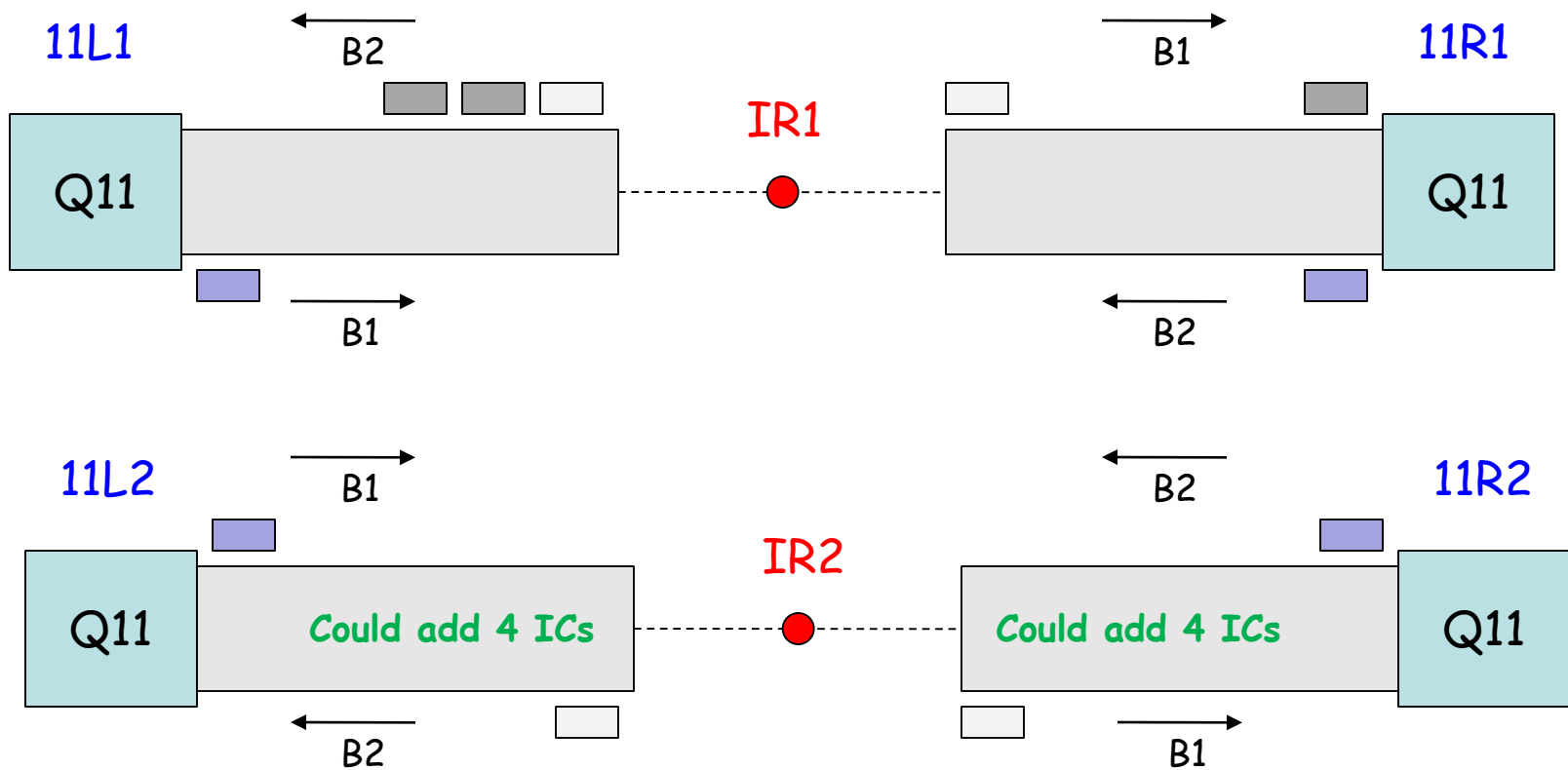
Can we quench the magnet and the busbar at the same time, respectively the busbar (→ much more critical for discharge) ?

- Even if the simulations show that for the considered case the number of protons is (much) higher to quench the busbar, this does not mean that the busbar never quenches.
 - Asynchronous dump: massive beam impact at collimators and downstream from LBDS could quench downstream busbars and magnets together.
 - IR6 : mostly relevant for trains. Simulations will be redone (lengthy!)
 - IR3/7 : also relevant for a single bunch??
- I will argue at the next LMC that at the present time a simultaneous quench cannot be excluded and that this should be considered as a worst case.

Interconnection cryostat BLMs (IC)

With precious input from L. Ponce & E.B Holzer.

■ = standard BLM □ = special MB BLM ■ = special ICC BLM



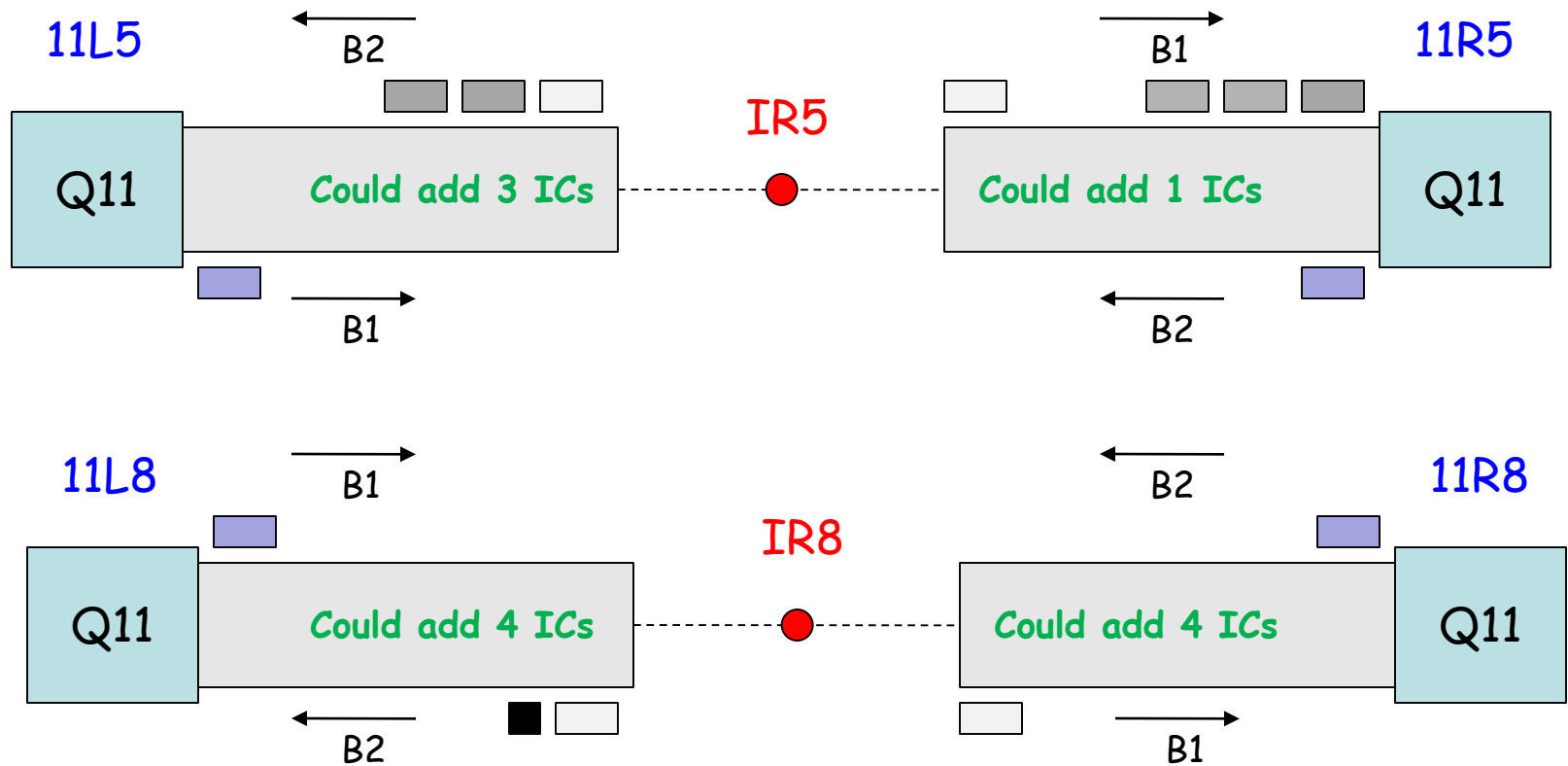
Interconnection cryostat BLMs

■ = special SEM

■ = standard BLM

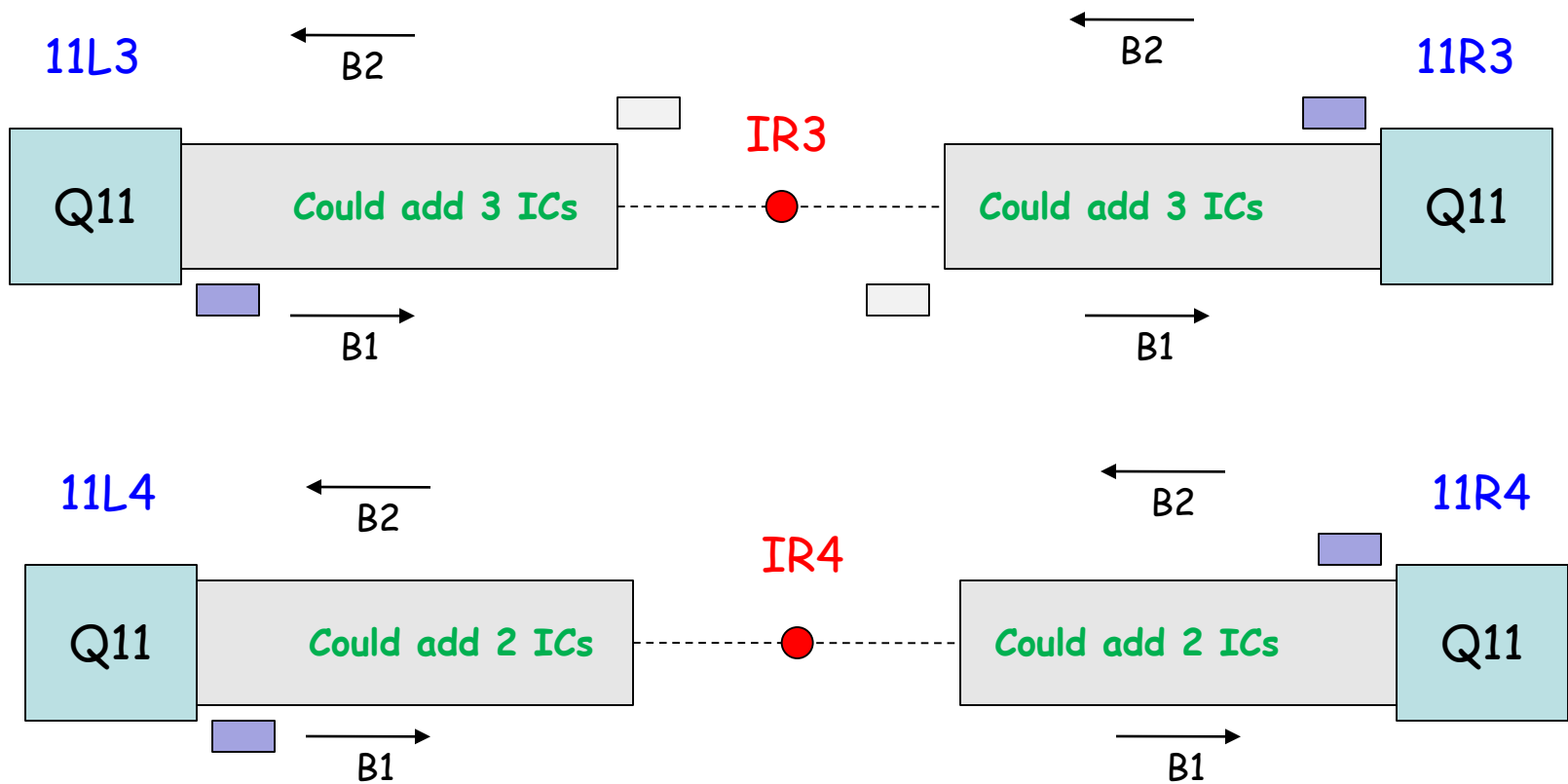
□ = special MB BLM

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Interconnection cryostat BLMs

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