Aperture model: reminder of status on 15 Mar 2005

■ **Information then available at**

 – http://proj-lhc-optics-web.web.cern.ch/proj-lhc-optics-web/V6.5/ApertureModel/readme.html

■ **Aperture model based on**

 – Beam screen data extracted directly from LHC Functional Layout Database

 – Supplemented (in gaps > 7 m) with aperture derived from sequence file `V6.5.aperture.seq.`

 – Very short beam screens (few mm) found, due to errors in database, related to DFBA shuffling modules, fixed (?)

■ **Request for aperture at the beginning and end of each element = aperture at the end of every element including drifts. Available as**
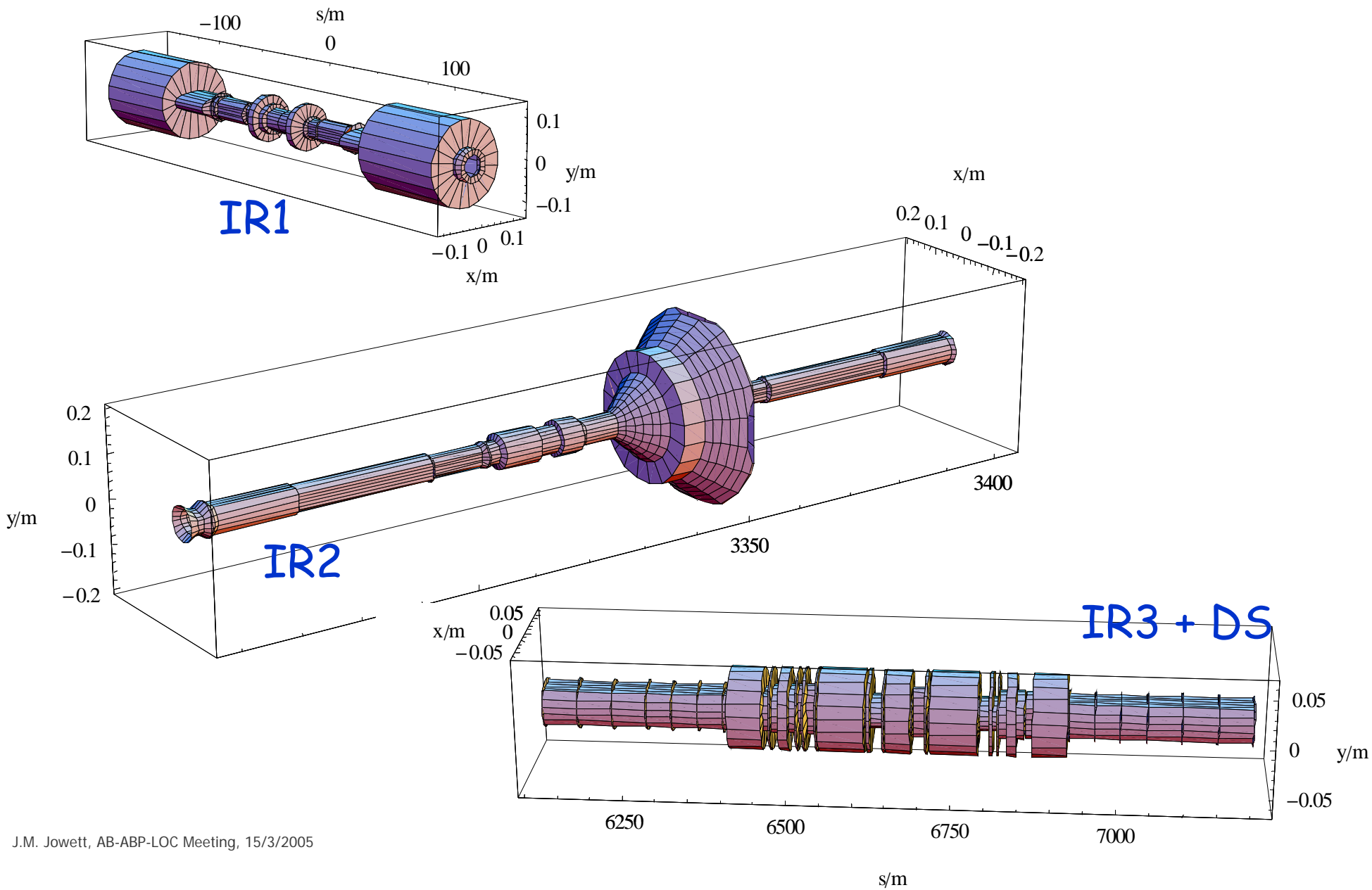
 – LHCB1FullApertureWithDrifts.csv   LHCB2FullApertureWithDrifts.csv

Aperture used for Collimation Study

- **Obtained from S. Redaelli as TFS file:**
  - allaper_lowb_20050322.b1 (propagated to 26640 elements)
  - mfsApertureCompress $\Rightarrow$ 2603 elements (7%)
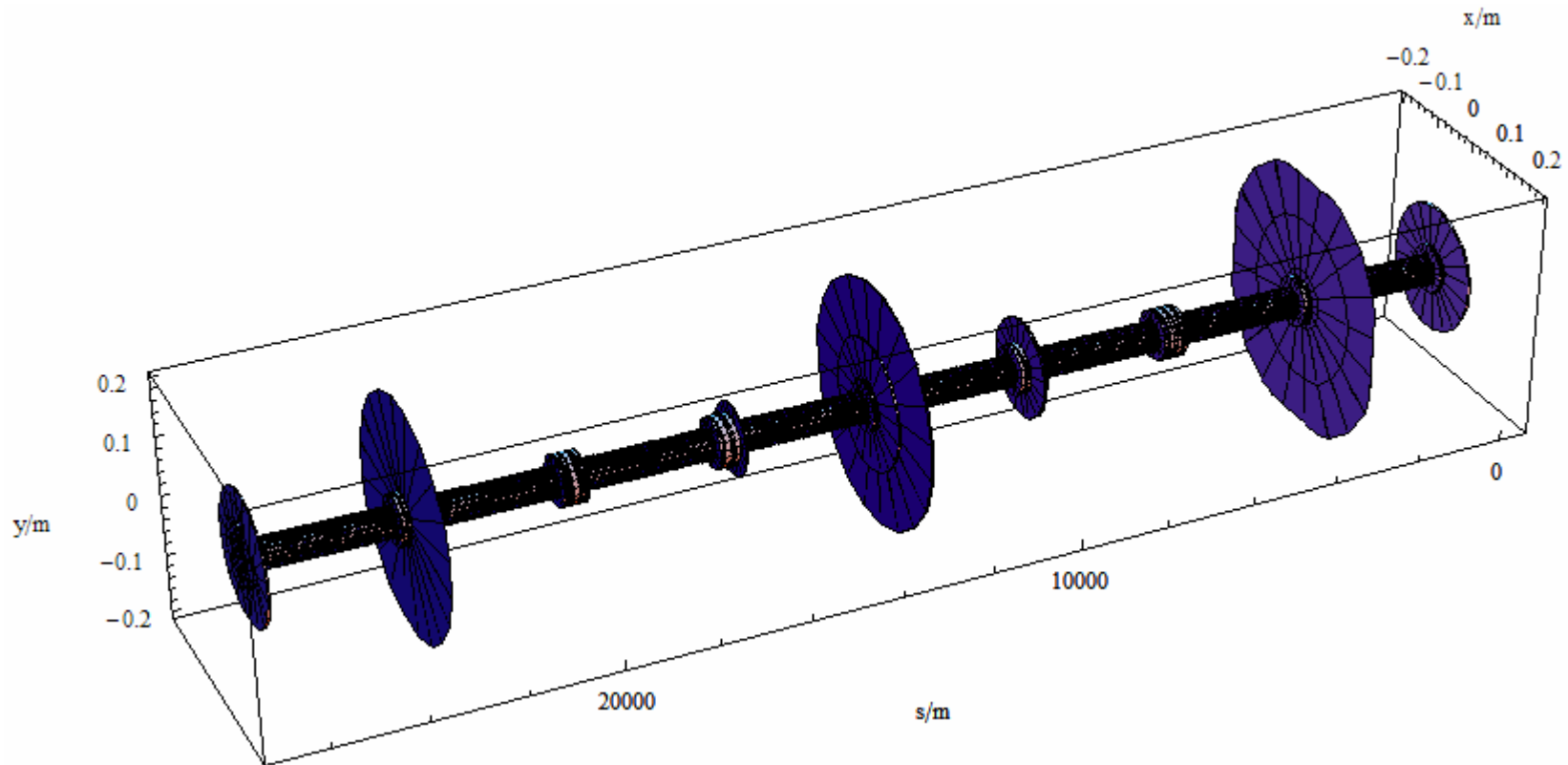
Collimation Study Aperture in Insertions, LHCB1 only

IR1

IR2

IR3 + DS

Remarks

- **Collimation study aperture different from earlier models**
  - Includes aperture bumps at BPMs in arcs
  - Differences in insertions
  - But only available for Ring 1
- **New data from Functional Layout Database**
  - Should include all beam screens and vacuum chambers
  - Available for Ring1 and Ring2
  - Will be treated similarly
    - Compressed aperture model, functions for aperture at any s
    - Aperture assignments for all elements in the ring as separate MAD files
    - Will be made available on LHC Optics Web
    - Detailed comparison plots will be included