

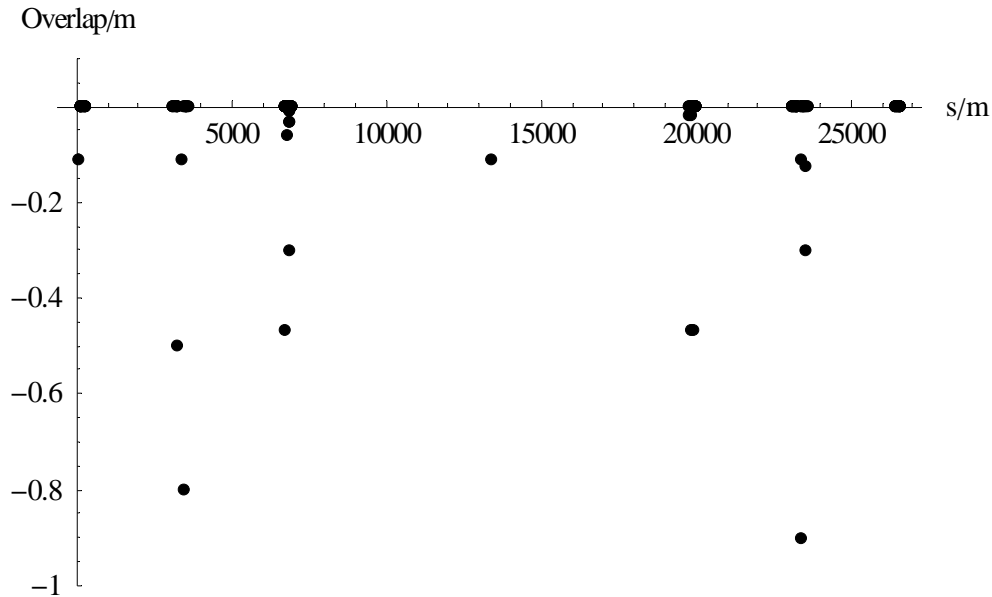
Mail from MG, 30 June 2005

- Dear All,
- Following the discussion we had few days ago, I would like to propose the following approach to fix quickly the issues discovered recently:
 - - Thys: could you please check with Samy that the web extraction of the aperture model works again (as it was the case right after the Chamonix Workshop)? In case the time to fix this is too long, I propose to extract the relevant information in the form of MAD files (I understand this works as before) and then John will have to develop (or this might already be done) a parser
 - - John: once the previous step is completed could you please gather the information from the various sources (I understand that the vacuum pipes are not available, yet from Samy) and then start the cross-check with the model developed by Stefano?
- In case there are not too serious difficulties on the database side, could we aim at having a presentation at the section meeting on July 19th? It would be extremely good to close this topic as quickly as possible as it plays an important role in the collimation studies.

Since then ...

- No longer possible to extract data as flat tables from database (as previously, just after Chamonix)
 - Would have to visit, and save, a Web page for every type of beam pipe
 - Decided to make do with the MAD format data created by the database (which cannot be used directly with MAD)
 - Requires development of parser to extract information
- 4 July: files incomplete, pointed out to TR
- 5-11 July: I was away
- 13 July files appear complete but no confirmation ...
- 14-15 July: parser package written (may be generally useful ...)
 - (17 July: elementary tutorial on Madtomma and aperture tools written for ABP-LII meeting on 18 July, on Web now)
- 18 July: files from database changed since 14 July
 - 197 pairs of overlapping beam pipes found in Ring 1 ...

Beam pipe overlaps in Ring 1



Found by matching up markers for start and end of each beam pipe.

The zero overlaps are cases where the end of one pipe and the start of the next are at equal s but the data is in the wrong order.

First 20 examples ...

In[386]:= Take[Flatten/@ mkbad, 20] // TableForm

Out[386]//TableForm=

VSSG.S.3R1.B1	45.3434	0.0241	0.029	0.029	0.029	VSSK.S.3R1.B1	54.9496	0.0298	0.0347	0.0347	0.0347
VSSG.E.3R1.B1	55.0621	0.0241	0.029	0.029	0.029	VSSK.E.3R1.B1	57.6391	0.0298	0.0347	0.0347	0.0347
VSSG.S.3R2.B1	3377.78	0.0241	0.029	0.029	0.029	VSSK.S.3R2.B1	3387.39	0.0298	0.0347	0.0347	0.0347
VSSG.E.3R2.B1	3387.5	0.0241	0.029	0.029	0.029	VSSK.E.3R2.B1	3390.01	0.0298	0.0347	0.0347	0.0347
VSSG.S.3R5.B1	13374.6	0.029	0.0241	0.029	0.029	VSSK.S.3R5.B1	13384.2	0.0347	0.0298	0.0347	0.0347
VSSG.E.3R5.B1	13384.4	0.029	0.0241	0.029	0.029	VSSK.E.3R5.B1	13386.9	0.0347	0.0298	0.0347	0.0347
VSSG.S.3R8.B1	23360.7	0.029	0.0241	0.029	0.029	VSSK.S.3R8.B1	23370.3	0.0347	0.0298	0.0347	0.0347
VSSG.E.3R8.B1	23370.5	0.029	0.0241	0.029	0.029	VSSK.E.3R8.B1	23373.	0.0347	0.0298	0.0347	0.0347
VMCKG.S.C4R1.B1	84.548	0.064	0.0265	0.064	0.0265	VCTNB.S.4R1.B1	84.898	0.10635	0.10635	0.10635	0.10635
VMCKG.E.C4R1.B1	84.898	0.064	0.0265	0.064	0.0265	VCTNB.E.4R1.B1	89.2	0	0	0.064	0.0265
VMBGA.S.A4R1.B1	89.2	0.106	0.106	0.106	0.106	VCDW.S.A4R1.B1	89.6	0.10635	0.10635	0.10635	0.10635
VMBGA.E.A4R1.B1	89.6	0.106	0.106	0.106	0.106	VCDW.E.A4R1.B1	95.5	0.10635	0.10635	0.10635	0.10635
VMBGA.S.B4R1.B1	95.5	0.106	0.106	0.106	0.106	VCDW.S.B4R1.B1	95.9	0.10635	0.10635	0.10635	0.10635
VMBGA.E.B4R1.B1	95.9	0.106	0.106	0.106	0.106	VCDW.E.B4R1.B1	101.8	0.10635	0.10635	0.10635	0.10635
VMBGA.S.C4R1.B1	101.8	0.106	0.106	0.106	0.106	VCDW.S.C4R1.B1	102.2	0.10635	0.10635	0.10635	0.10635
VMBGA.E.C4R1.B1	102.2	0.106	0.106	0.106	0.106	VCDW.E.C4R1.B1	108.1	0.10635	0.10635	0.10635	0.10635
VMBGG.S.A4R1.B1	108.1	0.106	0.106	0.106	0.106	VCDW.S.D4R1.B1	108.5	0.10635	0.10635	0.10635	0.10635
VMBGG.E.A4R1.B1	108.5	0.106	0.106	0.106	0.106	VCDW.E.D4R1.B1	114.4	0.10635	0.10635	0.10635	0.10635
VMBGA.S.D4R1.B1	114.4	0.106	0.106	0.106	0.106	VCDW.S.E4R1.B1	114.8	0.10635	0.10635	0.10635	0.10635
VMBGA.E.D4R1.B1	114.8	0.106	0.106	0.106	0.106	VCDW.E.E4R1.B1	120.7	0.10635	0.10635	0.10635	0.10635

Next steps

- Are the overlapping beam pipes real or errors ?
- If real, I need to:
 - Check that one beam pipe does indeed fit inside the other (criterion involving the 4 RECTELLIPSE components)
 - Use the smaller aperture in the overlap regions
- But I don't want to develop special code to deal with them if they are errors.
- Feedback please!!

- Tutorial on aperture functionality of Madtomma at:

<http://cern.ch/jowett/Madtomma/SmallExamples/>