Status & Issues Concerning TDI

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TDI news

- Design changes:
  - metallic coating on the front and end faces
  - rounding of the edges (removing ~ 2 mm of material)
  - ondulated foil (~ 0.5 mm) in CuBe (to have an elastically closed contact) is inserted in all the gaps (2 or 3 mm retracted from the beam).

- The presently built "first version" without ferrites and RF fingers has been installed last Dec. 2006 in LSS8R (will be removed after the 450 GeV "engineering run" and will be reworked as a common spare for IR 2 and 8).

- Both ferrites and RF fingers will be installed in the next 3 TDI's which will be installed in LSS2L in May/June 2007.

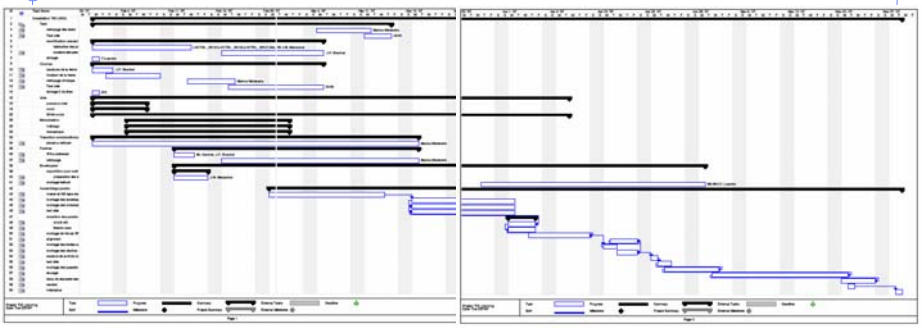
TDI news: outgassing tests

Preliminary results:

- confirm that hBN is outgassing as expected => it is acceptable

-hint at an outgassing of the TDI core segment x 10 higher than expected
=> Air which is trapped somewhere in the assembly=> F. Loprete is looking into this.

TDI news: schedule

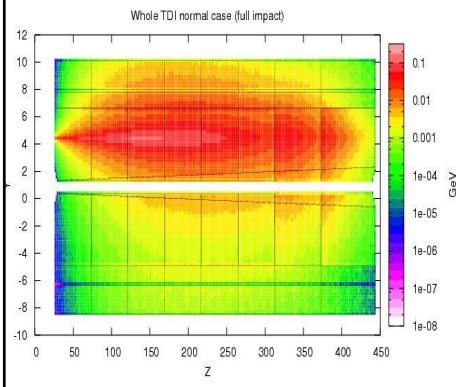


Open Issues:

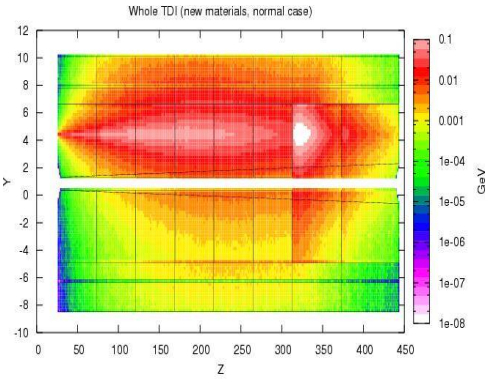
- Ferrite to be ordered

- Need 3rd ZS tank !!

COMPARISON: STANDARD TDI MODIFIED TDI

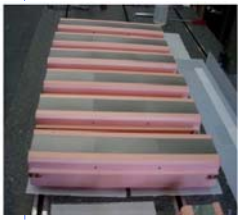


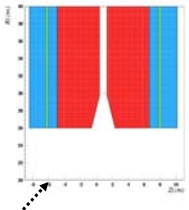
Standard TDI



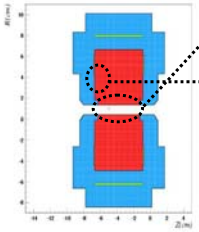
TDI with modified absorber materials

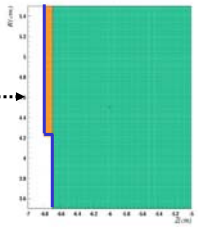
TDI news: design modifications





RAMP



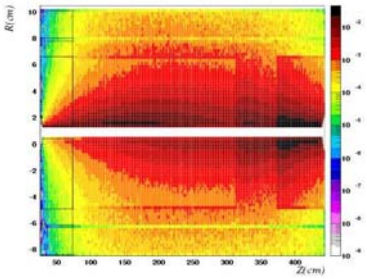


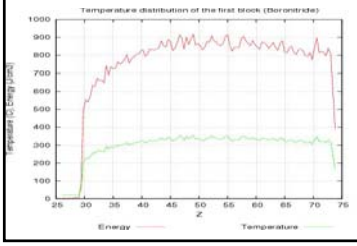
XY- PROJECTION

COPPER COATING ON THE INNER SURFACE OF THE ALUMINUM LINER

- **Titanium coating on the surface of the Boron nitride and the Aluminum blocks**
- **Seven gaps between the modules**
- **Inner and outer surface of the Aluminum liners electroplated with copper**
- **First and last absorber block are cut under an angle of 15 degrees so that a triangle of 10mm height and about 30mm length is cut off**

TDI news: energy deposition

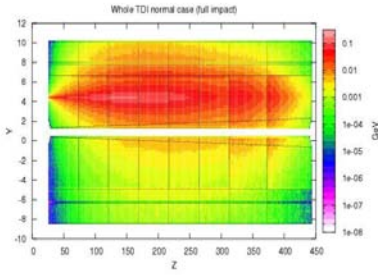


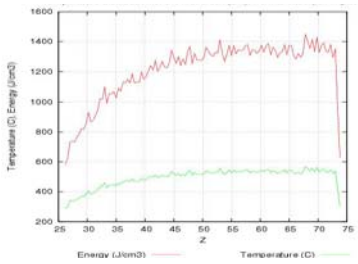


Block/coating	1	2	3	7	8	Ti-coating
Max. Energy deposition [GeV/cm3/p]	0.117	0.108	0.077	0.084	0.186	0.234
Max Temperature [C]	402	379	294	274	433	515
Max. Energy deposition [J/cm3]	917	849	603	657	1459	2390
Average statistic error [%]	<4	<5	<5	<30	<10	<70

GRAZING CASE, 4.9*10^13 PROTONS

TDI news: energy deposition

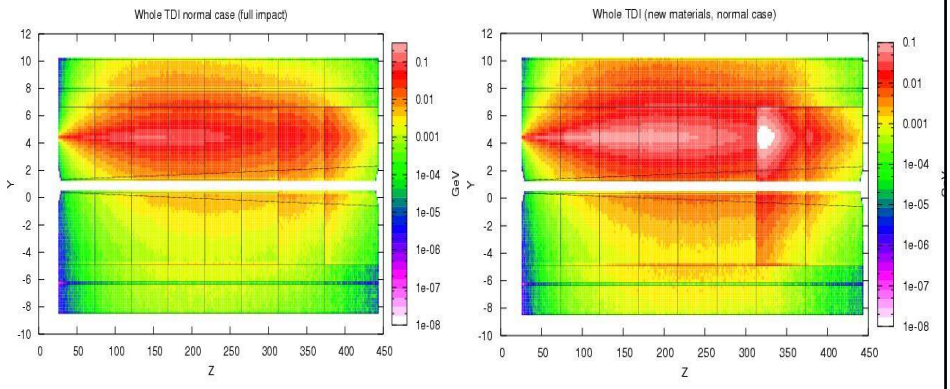




Block	1	2	3	7	8	Ti-coating
Max. Energy deposition [GeV/cm3/p]	0.185	0.178	0.152	0.107	0.059	0.510
Max. Temperature [C]	568	553	491	338	156	176
Max. Energy deposition [J/cm3]	1448	1397	1195	836	466	<500
Average statistic error [%]	<5	<7	<4	<30	<30	<80

NORMAL CASE, 4.9*10^13 PROTONS

TDI news: energy deposition



Standard TDI

TDI with modified absorber materials

Standard TDI shows better performance than the TDI with modified absorber materials