LumiCal mechanical structure redesign

W.Daniluk, E.Kielar, J.Kotula, K.Oliwa, <u>Wojciech Wierba</u>, L.Zawiejski Institute of Nuclear Physics PAN Cracow, Poland



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Motivation

 Reduce heavy material (tungsten) in inactive zone (ring between radius from ~200 mm to ~250 mm).

Find more space for FE electronics and some 'symmetry' – same layout for all fan out and FE PCB.

We have found some misunderstanding among many people concerning the LumiCal mechanical structure – clarify the design.



"Old" design of LumiCal





Too many fixing bolts, no 'symmetry', leak of space for fan out bonding.

"New" design of LumiCal



Less fixing bolts, more space for FE electronics, but still no 'symmetry'. Different fan out layout and FE PCB necessary.



Detailed half plate design





Detailed half plate design





Proposed FE placement





Most probably obsolete design – new single side design not yet ready

Conclusions

•To find a space for FE electronics with some symmetry, we have to sacrifice the simplicity of LumiCal mechanical design – we will have 4 different shape tungsten half plates instead of 1 (2?).

• Design of new FE placement has started.

•Simple model in 1:1 scale of mechanical structure will be made from transparent plastics soon.

•Real model of LumiCal from steel will be made in second half of 2010.

