



High
Luminosity
LHC

WP6.4 - Status of energy deposition and material studies.

Where we were (last year in Daresbury) and where we are now



F.Broggi (INFN)



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Outline of our talks (F. Broggi, A. Bignami, C. Santini)

- Intro to progress since last year meeting
 - Status of the simulations at IP1, and IP5 towards the final configuration (geometry in FLUKA and energy deposition results) (C. Santini)
 - Status at IP7 (A. Bignami)
 - Effects of neutrons on MgB_2 . Study of the reaction and the contribution of n, α and Li to the DPA (F. Broggi)
- Conclusion and future perspectives

Yesterday ~~Today~~ status (Daresbury 2013)

- Create the material library (MgB₂, BSCCO, YBCCO etc) with the correct isotopic composition etc. etc..... **DONE**
- Simulation of irradiation tests on the materials
- Evaluation of neutron effects on MgB₂ with ¹⁰B, ¹¹B and ^{nat}B **DONE** (and confirmed : results in the next slides with correct neutron fluences of primary and secondary neutrons)
- Create the FLUKA geometry for the SC links
(Received input from CERN : **WELL IN PROGRESS**)
- Particle Fluence in a possible location of the SC links
(**DONE**)
- Energy Deposition in the location of the SC links
(**WELL IN PROGRESS**)

Today status

- Evaluation of neutron effects on MgB_2 with ^{10}B , ^{11}B and $^{\text{nat}}\text{B}$ **DONE** (together with the Study of the reaction and the contribution of n , α and Li to the DPA).

- Created the FLUKA geometry for the SC links and shuffling module (Received input from S. Weisz: **WELL IN PROGRESS**)
- Particle Fluence at the SC links **(DONE)**
- Energy Deposition and DPA in the SC links **(DONE)**
Almost definitive for IP1, to be done for IP5, well in progress for P7

- Setting of the thermal conductimeter at LASA for measuring HTS



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