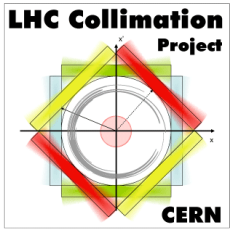
EuCARD-2 WP11 Topical Meeting Collimator Materials for Fast High Density Energy Deposition

EuCARD-2 WP11 Topical Meeting, MALTA, April 28-29, 2016

Adriana Rossi on behalf of

ColMat-HDED



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Scope

- The material work package in EuCARD-2 supports progress with material developments for collimators and targets, where requirements for material shock resistance, electrical and heat conductance, in conjunction with radiation hardness push research onto challenging grounds.
- This topical annual meeting aims at a comprehensive review on
  - Applications of collimator materials to LHC and HL-LHC,
  - Progress on material development and characterisation,
  - Outlines of production techniques,
  - Results of irradiation tests (ions, protons and high-energy impact protons)
  - Comparison with FLUKA estimation of DPA to predict radiation induce degradation.

Programme

THURSDAY 26th April 2016		
9:30	Introduction and scope (15'+5')	A. ROSSI – CERN
9:50	Overview of scenarios where new materials are required (20'+10')	R. BRUCE – CERN
10:20	Progress on material development and characterisation (30'+20')	J. GUARDIA VALENZUELA – CERN
11:10	COFFEE	
11:40	Material characterisation (30'+20')	L. PERONI – POLITO
12:30	CuCD production and novelties (20'+10')	M. KITZMANTEL – RHP
13:00	MoGr production and novelties (20'+10')	S. BIZZARO – BREVETTI-BIZZ
13:30	LUNCH (free)	
14:30	The HiRadMat 23 Experiments : results and analysis (30'+20')	F. CARRA – CERN
15:20	Ion irradiation results: variation of material properties with irradiation (30'+20')	M. TOMUT – GSI
16:10	COFFEE	
16:40	Proposal of upgrade scenarios based on tracking simulations with new materials (30'+20')	E. QUARANTA - CERN
17:30	Status and perspectives of proton irradiation tests at RRC-KI (30'+20')	A. RYAZANOV – RRC-KI
20:00	WP11 DINNER @ Michael's at the Civil Service Sports Club	
FRIDAY 27th April 2016		
9:00	Overview of radiation damage studies and the RaDIATE (Radiation Damage In Accelerator Target Environments) Collaboration (30'+20')	M. CALVIANI – CERN
9:50	FLUKA estimation of DPA for ion irradiation and update on IR7 DPA calculations for LHC operations (30'+20')	L. SKORDIS – CERN
10:40	COFFEE	
11:10	Studies of energy deposition for a proton absorbers for crystal collimators (30'+20')	S. GIBSON – RHUL
12:00	Status of proton irradiation tests at BNL and DPA estimation (30'+20')	N.SIMOS – BNL
12:50	LUNCH (free)	
14:15	Presentation of the ARIES (after EuCARD2) programme for materials (30'+20')	A. ROSSI and M. TOMUT
15:05	Wrap up and future plans	

WP11 Milestones and deliveries … a busy year ahead!

Milestones :

MS69 Irradiation of first samples	M12
MS70 Present results on material damage from irradiation	*M24*
MS71 Show new material development status	M24
MS72 Present results on material damage from simulation and compare to experiments	M45

Deliverables :

11.1 Result on simulations of new materials and composites	M36
11.2 Report on comparative assessment of beam simulation codes	M40
11.3 Irradiation test results	M46
11.4 Results on characterisation of new materials and composites	M46