



Contribution ID: 153

Type: Poster

Status of ADRIANO2 R&D in T1604 Collaboration

Tuesday, 7 November 2023 19:40 (20 minutes)

M. Anil^e, G. Blazey^b, A. Dykant^b, J. Elam^e, M. Figora^b, T. Fletcher^b, K. Francis^b, C. Gatto^{a*}, C. Le Mahieu^d, S. Los^c, M. Murray^d, M. Nickel^d, E. Ramberg^c, C. Royon^d, R. Sheemanto^f, M. Syhers^b, R. Young^d, Z. Ye^g, V. Zutshi^b

^aINFN (Italy) and Northern Illinois University, USA

^bNorthern Illinois University USA

^cFermilab, Batavia, USA

^dKansas University, USA

^eArgonne National Laboratory, USA

^fCity University of New York, USA

^gTsinghua University, China

A novel high-granularity, dual-readout calorimetric technique (ADRIANO2) is under development as part of the research program of the T1604 Collaboration[1]. The building block of such a calorimeter comprises a pair of optically isolated, small tiles made of scintillating plastic and lead glass. The prompt Cerenkov light from the glass can be exploited to perform high resolution time measurements while the high granularity provides good resolution of the spatial components of the shower. Dual-readout compensation and particle flow techniques applied to the plastic and lead glass sections should provide excellent energy resolution as well as PID particle identification, making ADRIANO2 a 6D detector suited for High Energy as well as High Intensity experiments.

Several prototypes have been built and tested at the Fermilab Test Beam Facility. A report on the ADRIANO2 project, current and future R&D plans by T1604 Collaboration, and the results of ongoing data analyses will be presented.

- corresponding author e-mail: corrado.gatto@fnal.gov

References

1. http://www-ppd.fnal.gov/FTBF/TSW/PDF/T1604_mou_signed.pdf (2019)

Early Career

Primary authors: GATTO, Corrado (INFN & NIU); COLLABORATION, T1604 (T1604)

Presenter: GATTO, Corrado (INFN & NIU)

Session Classification: Poster Session