Progress on BaF₂ Crystals and Photosensors

C.-h. Cheng, K. Flood, H. Gestsson, D.G Hitlin, J.H. Kim, F.C. Porter, J. Trevor *Caltech*

Abstract

We summarize herein progress on the measurement of barium fluoride crystal properties, including light yield, transmission, radiation hardness and cost, as well as on the devlopment of an avalanche photodiode sensor that is sensitive only to the fast scintillation component of Ba F_2 .

1. Introduction

2. Higher Rate Running

3. Conclusion

- F. Sauli, GEM: A new concept for electron amplification in gas detectors, Nucl. Instrum. Meth. A386 (1997) 531–534.
- [2] M. C. Altunbas, et al., Construction, test and commissioning of the triple-GEM tracking detector for COMPASS, Nucl. Instrum. Meth. A490 (2002) 177–203.
- [3] F. Simon, et al., Development of Tracking Detectors with industrially produced GEM Foils, IEEE Trans. Nucl. Sci. 54 (2007) 2646–2652.
- [4] F. Simon, The STAR tracking upgrade, arXiv:0710.0172 [physics.insdet]
- [5] K. H. Ackermann, et al., STAR detector overview, Nucl. Instrum. Meth. A499 (2003) 624–632.
- [6] C. E. Allgower, et al., The STAR endcap electromagnetic calorimeter, Nucl. Instrum. Meth. A499 (2003) 740–750.

Preprint submitted to Elsevier June 14, 2015