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Recent Progress of GaAsP HPDs from Hamamatsu for the MAGIC telescope project

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Abstract content

Today the Hybrid Photon Detector (HPD) is one of the few low light level (LLL) sensors that can provide an excellent single and multiple photoelectron (ph.e.) amplitude resolution. The recently developed HPDs from Hamamatsu with a GaAsP photocathode, namely the R9792U, provide a peak quantum efficiency (QE) of 55% and a pulse width of ~ 2 nsec. In addition, the afterpulsing rate of these tubes is very low compared to that of conventional photomultiplier tubes (PMTs), i.e. the value is ~ 1000 times lower. Photocathode aging measurements showed life time of about 10 years under standard operation conditions of the Cherenkov Telescopes. Here we want to report on the recent progress with the above mentioned HPDs. We also want to discuss their possible use in the construction of a test camera in the MAGIC telescope project.

If this papers is presented for a collaboration, please specify the collaboration

the MAGIC Collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 1461-1464

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