

Abstract Submitted  
for the HAW09 Meeting of  
The American Physical Society

**Radiation damage study of a Geiger-mode avalanche photo-diode (MPPC) using a pion beam at TRIUMF**<sup>1</sup> MICHAEL HASINOFF, University of British Columbia, DAVID GILL, TRIUMF, YOUICHI IGARASHI, JUN IMAZATO, KEK, Japan, ROB PYWELL, Univ of Saskatchewan, TORU MATSUMURA, Nat. Defense Academy of Japan — Silicon solid state Geiger-mode avalanche photo-diodes (MPPC) are now available from a several manufacturers. They offer several advantages compared to a conventional PMT – small size, weight, and even cost. However such solid state devices are also much more susceptible to radiation damage. Previous studies of a Hamamatsu S10362 400 pixel detector have shown significant radiation damage after exposure to 100M protons ( $\sim 50$  MeV). We have studied the signal deterioration and dark current during irradiation by a 130 MeV/c pion beam at TRIUMF. The results for a total exposure of 5000M pions will be presented.

<sup>1</sup>Supported by NSERC (Canada) and Ministry of Education, Sports and Culture (Japan).

Michael Hasinoff  
University of British Columbia

Date submitted: 29 Jun 2009

Electronic form version 1.4