

Title: **First tests on a single photon detector in the eV range at CAST**

Name: Giovanni Cantatore

Affiliation: University and INFN, Trieste, Italy

Email: giovanni.cantatore@ts.infn.it

Abstract

We have started the development of a detector system, sensitive to single photons in the eV energy range, to be suitably coupled to one of the CAST magnet ports. This system should open to CAST a window on possible solar low energy axions emitted by the sun. Preliminary tests have involved a cooled photomultiplier tube coupled to the CAST magnet via a Galileian telescope and a switched 40 m long optical fiber. This system has reached the limit background level of the detector alone in ideal conditions, and two solar tracking runs have been performed with it at CAST. Such a measurement has never been done before with an axion helioscope. We will present results from these runs and briefly discuss future detector developments.