Investigations of GLAST performances at very high energies

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Abstract. The GLAST instrument is dedicated to gamma-ray astronomy in the nominal wide energy range of 20 MeV to 300 GeV, but could be used to study gamma-rays or cosmic electrons up to few TeVs. In this paper we study the high energy response of GLAST from ten GeV, up to 1 TeV. Reconstruction algorithms and performances are presented both for energy and direction measurements using the GLAST calorimeter. Some applications to several astrophysical topics are presented.