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Event analysis for high energy cosmic ray electron spectrum with the Fermi Large Area Telescope LUCA LATRONICO[1], INFN, Sezione di Pisa, FERMI COLLABORATION — The Fermi Large Area Telescope (LAT) has been collecting data continuously in nominal operations since August 2008, providing exciting results that are contributing to changing our understanding of the extreme Universe. Designed as a high sensitivity and resolution gamma-ray observatory, the LAT is also a powerful electron detector with an unrivaled acceptance of about $2m^2 \times sr$ at 100GeV. Combining information from its silicon-strip tracker, its hodoscopic CsI calorimeter and the external anticoincidence detector, it is possible to detect electrons with very high efficiency and to reduce the overwhelming hadron background to low enough rates to effectively measure the steep primary electron spectrum up to around $\sim$1 TeV. We present here the LAT electron events analysis, addressing details of the instrument energy response and its background rejection capability. Validations of this performance from simulated, beam test and fligth data will be discussed, as well as studies of the associated systematic errors.

[1]on behalf of the FERMI-LAT collaboration

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