Clues about average pulsar parameters from cosmic-ray positron observations

C. Grimani

University of Urbino (cgrimani@fis.uniurb.it/+39 0722 375933)

Recent measurements of electrons and positrons in cosmic rays indicate a pure secondary origin for e+ below a few GeV when the role of the Sun in modulating opposite charged particles is taken into account. However, observations are found consistent with an excess of positrons above a few GeV. The upper limit to this excess is compatible with positron production at the pulsar polar cap. The average parameters of galactic pulsars are estimated on the basis of this possible evidence. The PAMELA experiment, taking positron data by 2006 with unprecedented accuracy, and the GLAST experiment, aimed to discriminate between polar cap and outer gap production processes in gamma-ray pulsars, will allow us to confirm or disprove these speculations.