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The electron and positron spectra measured by AMS-02

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The electron and positron spectra in the primary cosmic rays have been measured during the years with increasing precision by many experiments (Fermi, PAMELA, AMS-01, ATIC, HEAT among the others), up to the latest result of AMS-02.

AMS-02 is a large-acceptance spectrometer installed on the International Space Station on May 2011. After two years of data taking, more than 30 billion of events have been collected, allowing for a very precise measurement of the separate and combined electron and positron fluxes in the energy range from 0.5 to 700 GeV.

These results will be used to derive the local interstellar spectrum (LIS) of electrons and positrons with the Parker model, tuned on the proton flux measured by AMS-02, disentangling a possible signal of new physics from the effects due to the solar modulation.

The most important steps of this analysis will be discussed in this presentation.

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