

Precision Measurement of Electron and Positron Fluxes in Primary Cosmic Rays with the Alpha Magnetic Spectrometer on the International Space Station

Friday 6 July 2018 15:00 (15 minutes)

Precision measurements by the Alpha Magnetic Spectrometer on the International Space Station of the primary cosmic-ray electron and positron fluxes in the energy range up to 1000 GeV are presented. The electron flux and the positron flux are significantly different in their magnitude and energy dependence. Their behavior is consistent with the contribution from a new source of high energy particle contributing equally to the fluxes of both electrons and positrons.

Primary authors: OLIVA, Alberto (Centro de Investigaciones Energéticas Medioambientales y Tecno); GHELFI, Alexandre (Centre National de la Recherche Scientifique (FR)); DATTA, Amaresh (University of Hawai'i at Manoa (US)); CONTIN, Andrea (Universita e INFN, Bologna (IT)); BACHLECHNER, Andreas (Rheinisch Westfaelische Tech. Hoch. (DE)); KOUNINE, Andrei (Massachusetts Inst. of Technology (US)); BEISCHER, Bastian (Rheinisch Westfaelische Tech. Hoch. (DE)); COSTE, Benoit Jean-Albert (Universita e INFN, Padova (IT)); DEMIRKOZ, Bilge (Middle East Technical University (TR)); BERTUCCI, Bruna (Universita e INFN, Perugia (IT)); DELGADO MENDEZ, Carlos (Centro de Investigaciones Energéticas Medioambientales y Tecno); ZHANG, Cen (Institute of High Energy Physics, Chinese Academy Sciences); CHUNG, Chan Hoon (Rheinisch Westfaelische Tech. Hoch. (DE)); CORTI, Claudio (University of Hawai'i at Manoa (US)); GOY, Corinne (Centre National de la Recherche Scientifique (FR)); CONSOLANDI, Cristina (University of Hawai'i at Manoa (US)); GRANDI, Davide (Universita & INFN, Milano-Bicocca (IT)); D'URSO, Domenico (Universita e INFN, Perugia (IT)); DE CARVALHO BARAO, Fernando (LIP Laboratorio de Instrumentacao e Fisica Experimental de Part); GIOVACCHINI, Francesca (Centro de Investigaciones Energéticas Medioambientales y Tecno); DIMICCOLI, Francesco (Universita e INFN, Padova (IT)); AMBROSI, Giovanni (Universita e INFN, Perugia (IT)); LA VACCA, Giuseppe (Universita & INFN, Milano-Bicocca (IT)); GAST, Henning (Rheinisch Westfaelische Tech. Hoch. (DE)); CHEN, Hesheng (Chinese Academy of Sciences (CN)); CHOU, Hsin-Yi (National Central University (TW)); LIU, Hu (Massachusetts Inst. of Technology (US)); GEBAUER, Iris (KIT - Karlsruhe Institute of Technology (DE)); BERDUGO PEREZ, Javier (Centro de Investigaciones Energéticas Medioambientales y Tecno); FENG, Jie (Academia Sinica (TW)); CASAUS, Jorge (Centro de Investigaciones Energéticas Medioambientales y Tecno); DEROME, Laurent Yves Marie (Centre National de la Recherche Scientifique (FR)); AGUILAR-BENITEZ, Manuel (Centro de Investigaciones Energéticas Medioambientales y Tecno. (CIEMAT)); VECCHI, Manuela (Universidade de Sao Paulo (BR)); INCAGLI, Marco (INFN Sezione di Pisa, Universita e Scuola Normale Superiore, P); BOSCHINI, Matteo (Univ. degli Studi Milano-Bicocca (IT)); DURANTI, Matteo (Universita e INFN, Perugia (IT)); Mr BEHLMANN, Matthew Daniel (Massachusetts Inst. of Technology (US)); GRAZIANI, Maura (KIT - Karlsruhe Institute of Technology (DE)); HEIL, Melanie (Massachusetts Inst. of Technology (US)); PANICCIA, Mercedes (Universite de Geneve (CH)); VELASCO FRUTOS, Miguel Angel (Centro de Investigaciones Energéticas Medioambientales y Tecno); CAPELL, Mike (Massachusetts Inst. of Technology (US)); ZIMMERMANN, Nikolas (Rheinisch Westfaelische Tech. Hoch. (DE)); ZUCCON, Paolo (Massachusetts Inst. of Technology (US)); VON DOETINCHEM, Philip (University of Hawaii at Manoa); YAN, Qi (Massachusetts Inst. of Technology (US)); BATTISTON, Roberto (Univ + INFN); HAINO, Sadakazu (Academia Sinica (TW)); LU, Senquan (Academia Sinica (TW)); SCHAEFEL, Stefan (Rheinisch Westfaelische Tech. Hoch. (DE)); ZEISSLER, Stefan (KIT - Karlsruhe Institute of Technology (DE)); DELLA TORRE, Stefano (Universita & INFN, Milano-Bicocca (IT)); DI FALCO, Stefano (Universita & INFN Pisa (IT)); NELSON, Travis Gordon; BECKER, Ulrich (Massachusetts Inst. of Technology (US)); FORMATO, Valerio (Universita e INFN, Perugia (IT)); BINDI, Veronica (University of Hawai'i at Manoa (US)); XU, Weiwei (Massachusetts Inst. of Technology (US)); DE BOER, Wim (KIT - Karlsruhe Institute of Technology (DE)); CAI, Xudong (Massachusetts Inst. of Technology (US)); CHANG, Yuan-Hann (National Central University (TW)); Dr TANG, Zhicheng (Chinese Academy of Sciences (CN)); WENG, Zhili (Massachusetts Inst. of Technology (US)); LI, Zuhao (Chinese Academy of Sciences (CN)); CHOUTKO, Vitaly (Massachusetts Inst. of Technology (US))

Presenter: WENG, Zhili (Massachusetts Inst. of Technology (US))

Session Classification: Astro-particle Physics and Cosmology

Track Classification: Astro-particle Physics and Cosmology