



Contribution ID: 213

Type: **Parallel Talk**

Dark Matter signal from e^+ / e^- / p^- with the AMS Detector on the International Space Station

Friday, 7 July 2017 09:45 (15 minutes)

The excess of the antiproton flux and the antiproton-to-proton flux ratio beyond the prediction of the collision of ordinary cosmic rays is a unique signal from the Dark Matter model of neutralino annihilation. This excess can not come from pulsars. We present precision measurements by AMS of the antiproton flux and the antiproton-to-proton flux ratio in the absolute rigidity range from 1 to 450 GV based on 3.49×10^5 antiproton events and 2.42×10^9 proton events. Comparison of our results with neutralino annihilation model shows good agreement. Comparison with other astrophysics models will also be presented.

We also present the latest results on 20 million electron and positron events measured by the Alpha Magnetic Spectrometer on the International Space Station. The measurement covers the energy range up to 1000 GeV. The measured positron flux and the positron fraction are in agreement with the Dark Matter Model with a neutralino mass of ~ 1 TeV. Comparison of the measurement with other astrophysics models will also be presented. In addition the precision measurement of the combined electron and positron flux exhibit no structures and positron arrival directions are consistent with isotropy, in agreement with the Dark Matter models.

Experimental Collaboration

AMS

Primary author: ZIMMERMANN, Nikolas (Rheinisch-Westfaelische Tech. Hoch. (DE))**Presenter:** ZIMMERMANN, Nikolas (Rheinisch-Westfaelische Tech. Hoch. (DE))**Session Classification:** Dark matter**Track Classification:** Dark Matter