Contribution ID: **68** Type: **Oral**

# Precision measurement of the Energy Dependence of Primary and Secondary Cosmic Rays with the Alpha Magnetic Spectrometer on the International Space Station

*Wednesday, 5 June 2019 12:15 (30 minutes)*

Precision study of cosmic nuclei provides detailed knowledge on the origin and propagation of cosmic rays. AMS is a multi-purpose high energy particle detector designed to measure and identify cosmic ray nuclei with unprecedented precision. It is able to provide precision studies of nuclei simultaneously to multi-TeV energies. In 7 years on the Space Station, AMS has collected more than 120 billion both primary and secondary cosmic rays. Primary cosmic rays, such as p, He, C and O, are believed to be mainly produced and accelerated in supernova remnants, while secondary cosmic rays, such as Li, Be and B are thought to be produced by collisions of heavier nuclei with interstellar matter. Primary cosmic rays such as He, C, and O are found to have identical rigidity dependence, similarly to secondary cosmic rays (such as Li, Be and B) which share the same the same spectral shape. The peculiar case of Nitrogen being a mixture of a primary and secondary component will also be shown.

## Collaboration name

AMS Collaboration

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**Session Classification:** Astroparticle Physics and Cosmology

**Track Classification:** Astroparticle Physics and Cosmology