

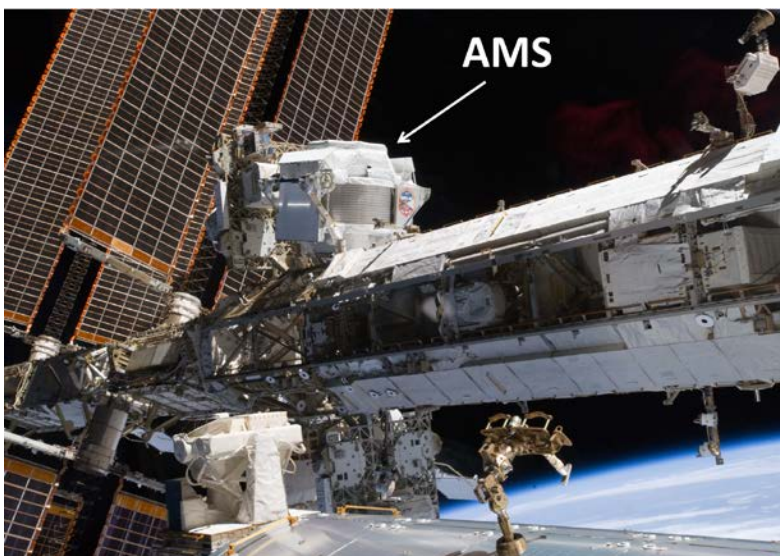


New results from the AMS experiment on the International Space Station.

Stefan Schael (RWTH Aachen)

Tuesday, 05 November 2013, 16:45 h
DESY Auditorium

The Alpha Magnetic Spectrometer, AMS, is a general purpose high energy particle physics detector. It was installed on the International Space Station, ISS, on 19 May 2011 to conduct a unique long duration mission (~20 years) of fundamental physics research in space. The first AMS results are based on the data collected during the initial 2 years of operations on the ISS. The positron fraction, that is, the ratio of the positron flux to the combined flux of positrons and electrons, is presented in the energy range from 0.5 to 350 GeV. Over the last 2 decades, there has been strong interest in the cosmic ray positron fraction in both particle physics and astrophysics. The very accurate data show that the positron fraction is steadily increasing from 10 to ~250 GeV, but, from 20 to 250 GeV, the slope decreases by an order of magnitude. The positron fraction spectrum shows no fine structure. In addition the first precision measurements by AMS on the cosmic ray proton, helium, electron and positron spectra as well as the important Boron to Carbon ratio measurement will be shown. Perspectives for the future and possible implications for some dark matter models will be discussed.



**Coffee, tea and cookies
will be served at 16:30h.**



**After the seminar there is a chance
for private discussions with the
speaker over wine and pretzels.**