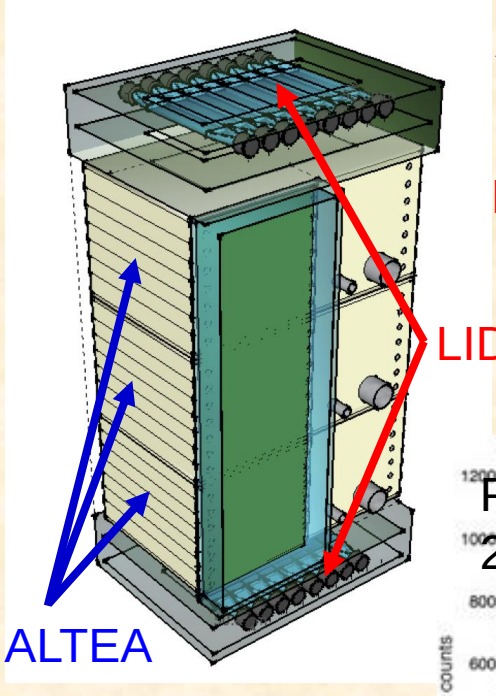
A compact Time Of Flight detector for radiation measurements in a space habitat: LIDAL-ALTEA

M.Cristina Morone, on behalf of the LIDAL ALTEA collaboration

LIDAL ALTEA will measure the radiation flux onboard of ISS and the dose to astronauts. It is scheduled to fly in 2019, is composed by 2 subsystems: ALTEA, which already took data on ISS, and LIDAL, under development, will enhance the ALTEA performances expanding the energy acceptance window and improving particle ID.



ALTEA : 18 Silicon strip detectors 380 mm thick measures deposited energy and tracks.

LIDAL: 2 arrays of fast scintillators at 49 cm distance, measures TOF and provides trigger for light and fast particle the whole system.

FLUKA simulation validated against Exp.data.

Measured time resolution 92ps