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The OLVE-HERO calorimeter prototype beam tests at CERN SPS

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A project of the OLVE-HERO space detector is proposed for CR measurement in the range 10^{12}-10^{16} eV and will include a large ionization-neutron 3D calorimeter with a high granularity and geometric factor of ˜16 $m^2\ sr$. The 3D structure of the calorimeter will allow registering CR particles coming from different directions. As the main OLVE-HERO detector is expected an image calorimeter of a boron loading of plastic scintillator with tungsten absorber. Such a calorimeter allows to measure an additional neutron signal which will improve the energy resolution of the detector. The more importantly, the rejection power between electromagnetic and nuclear CR components will be increased by factor 30-50 in the whole energy range. The boron loading scintillator detector prototype was designed and tested at the H8 beam test area at CERN SPS during heavy ion runs in 2016 - 2018. Results of the beam tests and the corresponding Monte-Carlo simulation will be presented

Secondary track (number)

8

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