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MEDIPIX cosmic ray tracking device flown on ESA BEXUS stratospheric balloon flight

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Results of the first experiment using a MEDIPIX-type detector for cosmic ray imaging in stratospheric environment are presented. The detector was used in its tracking mode allowing it to operate as an „active nuclear emulsion". The actual flight time was over 4 hours, with 2 hours at stable floating altitude of 26km. Different types of cosmic ray particles were acquired in the stratospheric radiation environment, sorted and analyzed. Detector performance is evaluated for further design implications of already accepted advanced concept focusing on Cosmic Ray Induced Ionization measurement.