

NOCTURNAL ATMOSPHERIC UV BACKGROUND MEASUREMENTS IN THE 300-400 NM BAND WITH BABY 2001: A BALLOON BORNE EXPERIMENT TO FLIGHT ON BOARD OF A TRANSMEDITERRANEAN BALLOON.

S. Giarrusso (1), et al.

(1) Istituto di Fisica Cosmica con Applicazioni all'Informatica – CNR, Palermo (Italy)

e-mail: jerry@ifcai.pa.cnr.it

The systematic observation of the UV nocturnal atmospheric background is the main item of the new balloon borne experiment, named BABY 2001 (Background BYpass). It belongs to a wider program EUSO devoted to the observation of the Extreme Energy Cosmic Rays from space, detecting the faint UV fluorescence light emitted by the atmosphere as final result of the cosmic rays interacting with the Earth's atmosphere.

The BABY 2001 experiment is foreseen to flight in June from the Milo-Trapani base on board of the transmediterranean balloon, looking downward from about 40 km of altitude the dark nocturnal atmosphere over the sea.

The apparatus used for the BABY 2001 experiment was designed and built at the IFCAI-CNR in Palermo. The instrument is composed by 8 filtered and collimated photomultipliers, two of them detecting the UV light in the 300-400 nm wavelength and the others in three narrow bandwidths centered at the lines emission of the atmospheric Nitrogen molecule (337, 357 and 391 nm).

First preliminary results will be also presented.