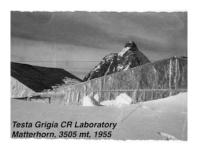
## XXV European Cosmic Ray Symposium



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## THE INVESTIGATION CHARACTERISTICS OF GAMMA-FAMILY FORMED IN INTERACTIONS OF PROTONS AND ALPHA- PARTICLES OF PRIMARY COSMIC RAYS WITH NUCLEI OF AIR ATOMS

Tuesday, 6 September 2016 16:30 (1h 45m)

Based on the experimental data "Pamir" in E0 = 5 • 1015-1017 eV were studied the spatial characteristics of the initial  $\gamma$ -families. As the spatial characteristics of the initial  $\gamma$ -families used the value R1E - length (mm) of the initial  $\gamma$ -quantum from the energy weighted center to the first particle with the maximum energy Emax (TeV). The value R1E is proportional to the transverse momentum of the leading particle at a given effective height Hef ~ 1km of formed families (PL = Emax • R1E / Hef).

In the paper was considered N = 813 of initial gamma-families, which were registered in the X-ray emulsion chambers (REC) of the experiment "Pamir", with a total energy  $\Sigma E \gamma = 100\text{-}2000$  TeV and the number nin  $\geq 4$  with Ein  $\geq 4$  TeV. The family includes the initial  $\gamma$ - quants, located at a distance R0  $\leq 15$  sm from the axis of the family. The experimental results are compared with data MS0 - model. In the experiment, are observed the events with large leading particles in relation to the model. According to an experimental data, in the distribution of spatial characteristics R1E is observed an excess  $\Delta p + \alpha = 0.12 \pm 0.2$  of experimental events with large values R1E> 15 mm, compared with MS0 - model. Thus, the spatial characteristics R1E of the initial  $\gamma$ - families was sensitive to the mechanism of the strong interaction.

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