

## **OBSERVATION OF COSMIC RAY HADRON INTERACTIONS WITH PAMIR 60 cm lead**

Y. Fujimoto (1), V. Kopenkin (2,3), A.Ohsawa (3), M.Tamada (4), C.E. Navia (5), C.R.A. Augusto (5), A.K. Managadze (2), T.M. Roganova (2), I.V. Rakobolskaya (2), L.G. Sveshnikova (2)

(1)Advanced Research Institute for Science and Engineering, Waseda University, 161,Tokyo, Japan, (2)Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow 119899, Russia, (3)Institute for Cosmic Ray Research, University of Tokyo, Chiba 277-8582, Japan, (4) Faculty of Science and Engineering, Kinki University, Osaka, 577-8502, Japan, (5) Instituto de Fisica, Universidade Federal Fluminense, 24210-130, Niteroi, Brasil

In present paper we analyse experimental data from collaboration work of MSU and Waseda University with 60 cm lead chambers of recent 57 m<sup>2</sup> year exposure at Pamirs. With new method of determination of energy and identification of origin of showers we study features of gamma hadron families, single hadrons and gamma showers. Our data are in agreement with previous results obtained by MSU group. General characteristics of cosmic ray hadron interactions at high energies are discussed