Study of high energy cosmic ray interactions and primary composition using mountain based detectors

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We report new experimental results obtained by MSU-Waseda collaboration. Our detector is 60 cm thick lead X-ray emulsion chamber exposed to comsic rays at Pamirs. We show that Pamir experiment can detect cosmic rays in the wide energy range 10^13 - 10^17 eV. Using experimental data we discuss the primary cosmic ray composition and the features of hadron interactions in the region before and after the "knee".