

CYGNUS X-3 AND SUPERNOVA REMNANTS

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Since 1994, the telescope SHALON at SHALON-ALATOO mountain observatory (altitude 3338m), has detected Very High Energy gamma-ray from Galactic objects Crab Nebula, Cygnus X-3, Geminga and Tycho Brage. Time analysis of the Cherenkov light outbursts shows that the contribution of protons of cosmic rays in observed gamma-quanta flux with energies higher than 0.8TeV from the point sources of gamma-quanta doesn't exceed 10% - 15%. The fluxes of energies above 0.8TeV observed in Crab Nebula are $(1.10 \pm 0.30) \cdot 10^{-12} \text{cm}^{-2} \text{s}^{-1}$, in Cygnus X-3 are $(4.20 \pm 0.70) \cdot 10^{-13} \text{cm}^{-2} \text{s}^{-1}$, in Geminga are $(4.8 \pm 1.7) \cdot 10^{-13} \text{cm}^{-2} \text{s}^{-1}$ and in Tycho Brage are $(1.89 \pm 0.90) \cdot 10^{-13} \text{cm}^{-2} \text{s}^{-1}$. The observable energy distribution of gamma quanta in an interval of energy $10^{12} - 5 \cdot 10^{13}$ from local sources in our Galaxy do not contradict a spectrum in Crab Nebular $dF/dE_{\gamma} \sim E_{\gamma}^{-2.13 \pm 0.10}$, in Cygnus X-3 $dF/dE_{\gamma} \sim E_{\gamma}^{-2.09 \pm 0.30}$. The observed spectra of the gamma-quanta without of discount of the 10%-15% contribution of the proton showers is in Crab Nebular $dF/dE \sim E^{-2.38 \pm 0.10}$ in Cygnus X-3 $dF/dE \sim E^{-2.56 \pm 0.11}$. It also differs from energy spectrum of cosmic rays $dF/dE \sim E^{-2.7}$.