

Search for high-energy solar neutrons in association with solar flares observed by BATSE using the Yangbajing neutron monitor

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The Yangbajing neutron monitor is suitable for observing solar neutrons in association with solar flares due to a location with an altitude of 4,300 m above sea level. Using data of the Yangbajing neutron monitor obtained during 1998 and 2000, we searched for solar neutrons from individual solar flares observed by BATSE. No signal due to solar neutrons was found in coincidence with those solar flares. The 90 % confidence level upper limits on the integral flux of solar neutrons above 100 MeV were obtained, assuming an energy spectrum of $E^{-2.0}$ and $E^{-3.0}$. The derived upper limits are compared with integral fluxes of solar neutrons obtained by past observations using other neutron monitors as well as satellite.