VARIATION OF MUON COUNTS VERSUS SOLAR TIME

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Small variations in the number of incident muons are observed when plotted versus local solar time. The total accumulated number of muons over three years' time is ~100 billion. The data obtained by Project GRAND are compared with data from neutron monitor stations which detect secondary neutrons. Project GRAND (42 N, 86W) is an array of 64 proportional wire chamber stations which are sensitive to secondary muons at energies greater than 0.1 GeV. The mean energy of cosmic ray primaries which produce these muons depends on the spectral index. For an index of 2.7, the most probable gamma ray primary energy is about 30 GeV; a similar energy is expected for neutron or proton primaries.