was good and the moon was set. Milagro is ideally suited to reveal
variable TeV Universe and discover new sources of TeV gamma rays.

...nuclei known as cosmic rays. Cosmic rays are composed of all nuclei, from hydrogen and beyond (transuranic elements have been observed in cosmic rays). TeV 10^9 TeV. When a high-energy cosmic ray enters the atmosphere it loses its energy at high energies these interactions create particles. These new particles go on to create a particle cascade. This process continues until the average energy particles lead to the absorption of particles and the cascade begins to die. This looks like a pancake of relativistic particles traveling through the atmosphere. The pancake may be decreasing, the size of the pancake always grows as the interaction. Roughly 100 meters across and 1-2 meters thick. If the primary cosmic ray was a nucleus the pancake will also contain muons, neutrinos, and hadrons. Energy of the primary cosmic ray, the observation altitude, and fluctuations in the detector.

AGN

Active galaxies emit radiation over the entire electromagnetic spectrum from radio waves to TeV gamma rays. Thermal emission comes from the accretion disk (infrared to X-rays) and the central engine. Non-thermal emission (radio and gamma rays) comes from the jet. One of the more exciting discoveries of the 1990s was the observation of TeV emission from several AGNs. TeV gamma rays have been observed from Mrk 421, Mrk 501, and 1ES1959+65. Mrk 501 and 1ES2344+514 are the first TeV gamma ray sources discovered by ground-based instruments. In 2001 data was used to study Mrk 421 while it was flaring. Over the period of January to April of 2001 and again in November of 2001, we observed a 4.7σ excess and during the 2001 period we observed a 3σ excess.