THE FLARING ACTIVITY OF MARKARIAN 421 DURING APRIL 2000

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As the first extragalactic source discovered at TeV energies and also as the brightest BL Lac object at X-ray and UV wavelengths, Markarian 421 (z = 0.03) continues to be monitored over a wide range of observational frequencies. Combined X-ray and TeV observations of spectral and temporal variability facilitates probing of the central engine responsible for particle acceleration and radiation mechanisms within BL Lac type objects.
During Spring 2000, the Whipple collaboration detected significantly increased TeV gamma ray emission from Markarian 421, over the period April 27 to May 1. All observations were made at elevations greater than 50 degrees, using the 10 m Imaging Atmospheric Cerenkov Telescope. On April 30 the TeV emission was observed to increase at an almost uniform rate over a two hour period, from a baseline of less than 0.4 Crabs at the beginning, to in excess of 4.7 Crabs at the maximum of the flare. Subsequently the flare decreased over an additional 2.4 hours of observation, to a level of about 2.4 Crabs when observations ceased. A detailed analysis of the TeV flare will be compared with contemporaneous X-ray data.