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FACT: Monitoring TeV Blazars with Silicon Photomultipliers

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The First G-APD Cherenkov Telescope (FACT) has pioneered the use of solid state photosensors (G-APD/SiPM) in astroparticle physics. Data-taking started in October 2011, and the system has operated remotely for over three years. G-APDs have proven to be very reliable and have enabled FACT to produce the first Crab nebulae spectra from such an instrument and collect large unbiased data sets on extra-galactic blazars, including Mrk 501 and Mrk 421. These two objects are close-by and highly variable, providing us with an excellent opportunity to study this source class.

This presentation will describe the status of FACT and report the lessons learned regarding the usage of SiPM in Cherenkov telescopes. Contemporaneous correlations between FACT and measurements in other wavelengths will be shown, along with preliminary searches for quasi-periodic modulation. We will also present potential future extensions to this technology that would enable the constant monitoring of these sources.

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