

Talk at Splinter Meeting

Splinter K

OBSERVATION OF THE COSMIC-RAY SHADOW OF THE MOON AND
SUN WITH ICECUBE

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Moon shadow analyses are standard methods to calibrate cosmic-ray detectors. We report on a four year observation of cosmic-ray Moon and Sun shadows in different detector configurations. The cosmic-ray Moon shadow was observed with high statistical significance ($> 6\sigma$) in previous analyses when the IceCube detector operated in a smaller configuration before it was completed in December 2010. This work shows the first analyses of the cosmic-ray Sun shadow in IceCube. A binned analysis in one- and two-dimensions is used to measure the Moon and Sun shadow with high statistical significance greater than 12σ . The cosmic-ray shadow of the Sun is expected to be influenced by the solar magnetic field, which has already been observed by the Tibet AS-Gamma Experiment.