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## Observations of the Crab with VERITAS

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### Abstract content

The Crab Nebula has proven to be the best tool to calibrate and to characterize the performance of a Cherenkov telescope. Scientifically, it is interesting to measure its energy spectrum close to the Inverse-Compton peak where a deviation is expected from the power law seen at energies above 300 GeV. Additionally, it is important to search for pulsed emission from the Crab Pulsar at energies beyond the 10 GeV upper limit of the EGRET pulsar detection. Since current models predict a cut-off in pulsed emission between 10 and 100 GeV, measurements at energies close to this range will help in discriminating between them. We have observed the Crab extensively in the 2006-2007 season during the VERITAS 2- and 3-telescope commissioning phases. Using this data set we have reconstructed a preliminary energy spectrum of the signal from the Nebula. We have also measured the optical pulsed signal to validate our GPS time-stamping and barycentering techniques and have obtained an upper limit for the pulsed emission at gamma-ray energies. We present here the results of these studies.

**If this paper is presented for a collaboration, please specify the collaboration**

VERITAS

### Summary

### Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 2 (OG part 1), pages 847-850

**Primary author(s) :** Ms. CELIK, Ozlem (University of California, Los Angeles)

**Presenter(s) :** Ms. CELIK, Ozlem (University of California, Los Angeles)

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