

# 吉田研セミナー

講演者: David Paneque 氏

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日時: 12月12日 (金) 午後 1:00時 – 2時00分

場所: 青山学院大学 理工学部 L棟 L706b

**題目:** The challenge of studying blazars: the crucial role of gamma-ray astronomy

Blazars are the most powerful persistent sources in the Universe, bringing information about physical processes that cannot be reproduced on Earth-based laboratories. Despite having been studied for half a century, they are still far from being understood due to their complexity and a number of observational challenges that need to be overcome. In the presentation I will show that the advent of the new Imaging Atmospheric Cherenkov Telescopes (in operation since 2004, and upgraded in mid 2012), and the Large Area Telescope (in operation since mid 2008) on board of the Fermi Gamma-ray Space Telescope, provides us with a wealth of possibilities that did not exist before, and can play a crucial role in boosting our understanding of these extreme objects during the next 10 years. In the talk I will focus on the classical TeV blazars Mrk421 and Mrk501, which are among the brightest X-ray and TeV sources in the sky, and among the few sources whose (radio to VHE gamma-rays) Spectral Energy Distributions (SEDs) can be characterized by current instruments by means of relatively short observations (minutes to hours). Starting in 2009, we have been performing an annual unprecedentedly long and dense monitoring of the broadband emission from these two classical TeV blazars, involving the participation of Fermi, MAGIC, VERITAS, F-GAMMA, Swift, RXTE, GASP-WEBT, VLBA, and other collaborations/groups and instruments which have been providing the most detailed temporal and energy coverage on these sources to date. In the talk I will report some highlights from these campaigns, showing that Mrk421 and Mrk501 can be studied with a larger degree of accuracy than most of the other blazars whose emissions are weaker or are located farther away.