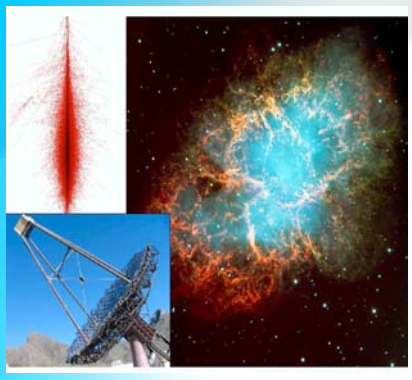
Physics Colloquium

Michigan Technological University

Thursday, October 16, 2008
4:00 - 5:00 pm
Room 139, Fisher Hall



Quasars and Microquasars: Accreting Black Holes in the Light of TeV Photons

Gernot Maier
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Abstract: Astrophysical jets are hugely powerful outflows of energy and matter moving away from accreting black holes. They are found in numerous extreme environments in the universe, such as active galactic nuclei, galactic X-ray binary systems, and are almost certainly present in the progenitors of gamma-ray bursts. Observations show that jets are able to accelerate particles to high energies and some active galactic nuclei are found to emit high-energy gamma-rays. How jets form and the mechanism by which they accelerate particles to extremely high energies is, as yet, poorly understood. I will discuss observations of galactic and extragalactic objects exhibiting jets with ground-based gamma-ray observatories. The experimental technique used to observe TeV photons, its limitations and plans for future instruments are explained in detail.

Biography: Gernot Maier did his PhD in Physics in 2003 from University of Karlsruhe, Germany. During this time he worked at the cosmic-ray experiment KASCADE. From 2004-2006, he was Alexander von Humboldt fellow working at University of Leeds, England. Since 2006, he has been working as a post-doctoral fellow at McGill University, Canada. His research interest is gamma-ray emission from X-ray binaries field.

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