Title: Space- and ground-based gamma-ray astronomy

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Abstract: During the last decade the observational gamma-ray astronomy has witnessed a remarkable progress in the high energy (photon energies between 100 MeV and 100 GeV, observed by space-observatories) and very high energy (photon energies above 100 GeV, observed by ground-observatories) regimes. The currently operating gamma-ray detectors have discovered a rich diversity of gamma-ray source and allowed to address some fundamental problems ranging from the origin of cosmic rays to particle acceleration near compact objects and the nature of gamma-ray bursts. I will review the most important results in this rapidly developing field.

Andrzej Niedźwiecki is currently associate professor at the Department of Astrophysics at the University of Łódź (Łódź, Poland). From 1992 to 1997 he worked at the Copernicus Astronomical Center of the Polish Academy of Sciences in Warsaw, where he received the Doctoral Degree in 1996. In 1997 he moved to the University of Łódź, where he got the habilitation in 2009. His scientific interests fall in two areas of high energy astronomy and astrophysics: (1) theoretical and observational investigation of accretion onto compact objects, and (2) experimental techniques of imaging Cherenkov telescopes (ICT). He is involved in two ICT experiments, MAGIC and CTA.