



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Contribution ID: 563

Type: Oral Presentation

Plenary - Gamma-ray bursts and other transients: Ephemeral tests of extreme physics

Tuesday, 10 July 2012 09:30 (1 hour)

Abstract content
 (Max 300 words)

Gamma-ray bursts were discovered serendipitously by test ban treaty verification programmes in the 1960s. They became one of the longest-lasting enigma's in astrophysics until observations with new technologies in 1990s revealed them to be distant explosions, in which massive stars in their death form a black hole. Both in probing the extreme end of gravitational physics and magnetohydrodynamics, and in probing the very distant Universe, they allow us to test fundamental physics in regimes well beyond the reach of terrestrial laboratories. I will give an overview of the current state of affairs, and will also show how time-domain astronomy with modern radio telescopes such as LOFAR and ultimately the SKA may lead us to even rarer and stranger objects, possibly signalling even more extreme physics.

Apply to be
 consider for a student
 award (Yes / No)?

No

Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

No

Primary author: Prof. WIJERS, Ralph (Astronomical Institute 'Anton Pannekoek', University of Amsterdam, The Netherlands)

Presenter: Prof. WIJERS, Ralph (Astronomical Institute 'Anton Pannekoek', University of Amsterdam, The Netherlands)

Session Classification: Plenary

Track Classification: Track D1 - Astrophysics