

Realtime Astroparticle Physics

Report of Contributions

Contribution ID: 0

Type: **not specified**

The Palomar Transient Factory

Tuesday, 5 February 2013 09:00 (35 minutes)

The Palomar Transient Factory

Primary author: OFEK, Eran (W)

Presenter: OFEK, Eran

Session Classification: Optical transients II

Contribution ID: 1

Type: **not specified**

IceCube GRB searches - Toward a realtime search system

Monday, 4 February 2013 14:00 (35 minutes)

IceCube GRB searches - Toward a realtime search system

Primary author: BLAUFUSS, Erik (University Of Maryland)

Presenter: BLAUFUSS, Erik

Session Classification: Neutrinos

Contribution ID: 2

Type: **not specified**

Gamma-ray Observations of Pulsars with the Fermi LAT

Tuesday, 5 February 2013 10:00 (30 minutes)

The Large Area Telescope (LAT) on the Fermi satellite has opened a new era in the study of pulsars, by increasing the population of known gamma-ray pulsars from fewer than 10 to more than 120 objects, thereby establishing pulsars as the dominant class of GeV sources in the Galaxy. The improved sensitivity of the LAT has allowed studies of the light curves and spectra of gamma-ray pulsars with unprecedented details, and the discovery of new populations of radio quiet pulsars and millisecond pulsars in Fermi unidentified sources has revolutionized our view of the gamma-ray pulsar population. I will review Fermi LAT observations of pulsars after four years of mission, describe the techniques used to detect pulsars in the LAT data and highlight some of the exciting results.

Primary author: GUILLEMOT, Lucas (M)

Presenter: GUILLEMOT, Lucas

Session Classification: Gamma-rays

Contribution ID: 3

Type: **not specified**

Follow-up of the Antares neutrino alerts

Monday, 4 February 2013 15:00 (35 minutes)

Primary author: DAMIEN, dornic (CPPM/IN2P3/CNRS)

Presenter: DORNIC, Damien (CPPM/IN2P3/CNRS)

Session Classification: Neutrinos

Contribution ID: 4

Type: **not specified**

Radio transient searches

Monday, 4 February 2013 17:10 (30 minutes)

I will review the various methods that have been used in the search for transient radio signals. After introducing the so-called “transient phase space”, I will present the highlights of the discoveries from the past few years. Then, I shall focus on a number of as-yet-unexplained signals which might prove to be powerful cosmological probes. Next, I will review the known sources of transient radio emission, as well as speculating on theoretical possibilities, considering the observational evidence for these. I will conclude by looking at the very latest in search techniques as the community transitions from archival searches of single-telescope surveys towards real-time all-sky monitoring using vast telescope arrays.

Primary author: Dr KEANE, Evan (MPIfR)

Presenter: KEANE, Evan

Session Classification: The transient radio sky

Contribution ID: 5

Type: **not specified**

FRAM – The Robotic Telescope in the Pierre Auger Observatory

Tuesday, 5 February 2013 09:35 (25 minutes)

F/(Ph)otometric Robotic Atmospheric Monitor is one of the atmospheric monitoring instruments at the Pierre Auger Observatory in Argentina. FRAM is an optical telescope equipped with CCD cameras and it automatically observes a set of selected standard stars. FRAM observations are used to obtain the wavelength dependence of the light extinction. FRAM telescope is also able to observe secondary astronomical targets, and namely the detection of optical counterparts of gamma-ray bursts has already proven to be successful. Finally, a wide-field CCD camera of FRAM can be used for rapid monitoring of atmospheric conditions along the track of particularly interesting cosmic ray showers.

Primary author: SMIDA, Radomir (Karlsruhe Institute of Technology (KIT))

Presenter: SMIDA, Radomir

Session Classification: Optical transients II

Contribution ID: 6

Type: **not specified**

Radio transients in the High Time Resolution Universe radio survey

Monday, 4 February 2013 17:40 (30 minutes)

We are carrying out the most ambitious and comprehensive all-sky survey for pulsars and transient sources to date. Using new digital filterbank backends this survey will create a digital record of the sky that can be data mined in the future and used to search for relativistic binary and millisecond pulsars, RRATs, and extragalactic radio bursts. Using GPU technology we have developed a realtime transient detector capable of finding intermittent pulsars and fast radio bursts within minutes of the data being taken. The first results of this transient search will be presented.

Primary author: CHAMPION, David (MPIfR)

Presenter: CHAMPION, David (MPIfR)

Session Classification: The transient radio sky

Contribution ID: 7

Type: **not specified**

Welcome and meeting objectives

Monday, 4 February 2013 11:10 (35 minutes)

Presenter: KOWALSKI, Marek (University Bonn)

Session Classification: Introduction

Contribution ID: 8

Type: **not specified**

Gravitational Waves and Multimessenger Astrophysics: high-energy neutrinos and electromagnetic counterparts

Monday, 4 February 2013 11:45 (45 minutes)

Presenter: BARTOS, Imre

Session Classification: Introduction

Contribution ID: 9

Type: **not specified**

Ground-based gravitational wave detectors and their capabilities through 2020

Tuesday, 5 February 2013 14:45 (45 minutes)

In this talk I describe the advanced ground-based gravitational-wave detector projects (LIGO in the USA, VIRGO in Italy, GEO in Germany, KAGRA in Japan, LIGO in India), review their status and capabilities, and outline the different signal analysis methods and pipelines that are used. We expect that the first direct detections of gravitational waves (perhaps around 2017) will be from the coalescence and merger of binary neutron star pairs. Such events may also be accompanied by electromagnetic gamma-ray bursts.

Presenter: ALLEN, Bruce

Session Classification: Gravitational wave detection

Contribution ID: **10**

Type: **not specified**

Gravitational Wave detection using Pulsar networks

Tuesday, 5 February 2013 16:00 (45 minutes)

Presenter: KRAMER, Michael

Session Classification: Gravitational wave detection

Contribution ID: 11

Type: **not specified**

The Era of Realtime Astrophysics - The Role of Autonomous Robotic Telescopes

Monday, 4 February 2013 16:00 (35 minutes)

Presenter: MUNDELL, Carole

Session Classification: Optical transients I

Contribution ID: 12

Type: **not specified**

Fermi, GROND & GRBs

Monday, 4 February 2013 16:35 (35 minutes)

Presenter: RAU, Arne

Session Classification: Optical transients I

Contribution ID: 13

Type: **not specified**

SWIFT & Neutrinos

Wednesday, 6 February 2013 10:00 (30 minutes)

Presenter: HOMEIER, Andreas

Session Classification: X-rays

Contribution ID: 14

Type: **not specified**

The detection rate of merging neutron stars / black holes

Wednesday, 6 February 2013 09:00 (30 minutes)

Presenter: TAURIS, Thomas

Session Classification: Theory - II

Contribution ID: 15

Type: **not specified**

The progenitors of SNe and GRBs

Wednesday, 6 February 2013 09:30 (30 minutes)

Presenter: YOON, Sung-Chul (Argelander-Institut für Astronomie, Uni Bonn)

Session Classification: Theory - II

Contribution ID: 16

Type: **not specified**

Revealing deaths of massive stars with high-energy neutrinos

Tuesday, 5 February 2013 11:45 (45 minutes)

Neutrinos play important roles in revealing mechanisms of energetic astrophysical explosions such as gamma-ray bursts (GRBs) and supernovae (SNe). The large neutrino detector, IceCube has opened a new window of the multi-messenger astronomy. I overview theoretical prospects of high-energy higneutrino emissions from gamma-ray bursts, newly-born magnetars and luminous supernovae in view of the latest theoretical and observational developments, and discuss the potential of GeV-TeV neutrinos for revealing the progenitor star, circumstellar environment and the connection between GRBs and SNe.

Presenter: MURASE, Kohta

Session Classification: Theory - I

Contribution ID: 17

Type: **not specified**

Predictions for Neutrino and Gravitational-Wave Signals of a Future Galactic Supernova

Tuesday, 5 February 2013 14:00 (45 minutes)

Presenter: JANKA, Thomas

Session Classification: Theory - I

Contribution ID: **18**

Type: **not specified**

GRB and AGN flare observations with MAGIC

Tuesday, 5 February 2013 11:00 (45 minutes)

Presenter: BECERRA-GONZALEZ, Josefa (University of Hamburg & Instituto de Astrofísica de Canarias (IAC))

Session Classification: Gamma-rays

Contribution ID: **19**

Type: **not specified**

MAGICs hunt for GRBs

Presenter: GARCZARCZYK, Markus

Contribution ID: 20

Type: **not specified**

IceCube optical follow-up

Monday, 4 February 2013 14:35 (25 minutes)

Presenter: VOGE, Markus

Session Classification: Neutrinos

Contribution ID: 21

Type: **not specified**

Astrophysical Multimessenger Observatory Network (AMON)

Wednesday, 6 February 2013 10:55 (45 minutes)

Presenter: SMITH, Miles

Session Classification: Putting it all together

Contribution ID: 22

Type: **not specified**

Putting it all together: Discussion

Wednesday, 6 February 2013 11:40 (50 minutes)

Session Classification: Putting it all together