ABSTRACT BOOK

7th Gaia Science Alerts Workshop

7-9 December 2016

SRON Utrecht NL

The titles are sorted following the agenda of the workshop.

Workshop's agenda on-line: https://www.ast.cam.ac.uk/ioa/wikis/gsawgwiki/index.php/Workshop2016:agenda

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Jos de Bruijne
Gaia status

This presentation discusses the status of the Gaia mission.

Simon Hodgkin
Gaia Alerts

Lukasz Wyrzykowski
Gaia Alerts

Isabella Pagano
The PLATO mission: synergies with Gaia

PLATO is the 3rd Medium class mission in the ESA Cosmic Vision 2015-2025 program. Targeting to exoplanets it will complement the survey made by GAIA on the properties of stars and their planetary systems in vicinity of the Sun. I will briefly introduce the PLATO mission goals and report on the status of the project. I will then focus on the synergies between PLATO and GAIA.

Erika Pakstiene
Spectroscopic and Photometric observations at Moletai AO for the ESA PLATO space mission

After a careful analysis of the available information on the European Space Agency PLATO space mission we concluded that there is a strong need of stellar variability and spectroscopic information that is necessary for a development of the PLATO input catalogue. Current photometric catalogs and spectroscopic surveys are still not able to provide all the necessary variability and spectroscopic information that is required for PLATO. Together with our partners, we proposed the photometric and spectroscopic survey of the northern sky fields that potentially will be targeted by the PLATO mission. The aim of this study is to contribute in developing of the PLATO input catalogue by delivering the long-duration stellar variability information of PLATO fields in the northern-sky and a full spectroscopic characterisation of brightest targets. We use two telescopes of the Institute of Theoretical Physics and Astronomy at Vilnius University (ITPA VU) equipped with a high-resolution spectrograph and a CCD camera.

Arne Rau
SRG/eROSITA - Gaia synergies for transients and variables

Beatriz Villarroel
The VASCO mission: Searches for Vanishing Stars with Gaia

In the era of large astronomical surveys, it is now possible to efficiently search for objects having certain predicted signatures of astroengineering, like Dyson spheres. However, these signatures can often be confused with signatures from normal astrophysical sources e.g. dust, making it difficult to identify the true underlying cause of the observed signatures,

especially for galaxies. We propose to replace the search for signatures of astro-engineering with a search for “physically impossible” (or extremely improbable) effects. Such an approach can teach us about presently unknown physical phenomena or – in the most favorable of circumstances – identify interesting SETI targets and environments for radio observations. In this talk, I present a study where we search for signs of extraterrestrial intelligence by scanning for objects that disappeared from the sky during the last decades using the USNO catalogue. I will present the preliminary results from the project, but also discuss the ongoing project of the "Vanishing stars & Advanced extraterrestrial intelligence: Search by Comparing Observations" (VASCO) team, which aims to use Gaia and USNO data to search for vanishing stars in the Milky Way. Other scientific opportunities such as hypothetical failed supernovae and extreme variables, will also be discussed.

Gerry Gilmore
OPTICON

Zsolt Paragi
Tidal Disruption Events followed-up with milli-arcsec resolution

I will show very long baseline interferometry results for three very different TDEs.

Peter Jonker
Nuclear transients

Gaia has discovered several peculiar nuclear transients. Are we learning on AGN activity or are these events due to other phenomena? I'll discuss one particular event in some detail and show results of our follow-up observations.

Francesca Onori
Spectroscopic follow-up of iPTF16fnl: a uniquely nearby tidal disruption event

The luminous transient iPTF16fnl was detected the 26 August 2016 in the nucleus of Mrk 950, a quiescent galaxy at z=0.0163. The presence of a strong blue continuum, broad H and He II 4686 emission lines together with the host galaxy properties are consistent with a tidal disruption event. This is the most nearby tidal disruption event discovered so far (d~65 Mpc) and thus it can be studied in great detail. I will discuss the preliminary results from two month spectroscopic follow up of iPTF16fnl with Alfosc/NOT and Xshooter/VLT.

Aleksandra Hamanowicz
Nuclear transients from Gaia: the classification and follow-up

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Zuzanna Kostrzewa-Rutkowska
Gaia nuclears - how to

Thomas Wevers

Fast transients with Gaia

Krzysztof Rybicki
Fantastic Black Holes and how to find them

Lukasz Wyrzykowski
Gaia16aye - spectacular binary microlensing event

Habib Khosroshahi
Iranian National Observatory; project update

The Iranian National Observatory is under construction at an altitude of 3600m at Gargash summit. With a median seeing of 0.7 arcsec throughout the year its a promising site in northern hemisphere. One of the major observing facilities of the observatory is a 3.4m optical telescope which is currently under design. In addition INO intends to install other observing facilities to appeal to a wider community of astronomer. I will describe the present status of the project.

Fraser Lewis
Monitoring Gaia Alerts Targets with the Faulkes Telescope Project

At the Faulkes Telescope Project, based at Cardiff University, we have been creating datasets and educational resources for use with schools and teachers utilising the Gaia Alerts program, especially based around supernovae. We will demonstrate some of these resources as well as showing results from the schools that have been involved thus far.

Meredith Morrell
PIRATE observatory of the Open University

Michel Dennefeld
OHP contribution to Gaia Alerts follow-up

Ricardo Zanmar Sanchez
The robotic telescope APT2

We present the 80cm robotic telescope APT2, its capabilities and examples of our contributions to GAIA alerts and other collaborations.

Lukasz Wyrzykowski

OPTICON follow-up network 2012-2020, plans for future, feedback, discussions

I will describe the current status of the transients follow-up network under OPTICON Time Domain Astronomy work package and will present plans for the next four years of the network.

Giovanna Maria Stirpe
The 1.52m Loiano Telescope and the Gaia Alerts challenge

I will describe the 1.52m Cassini telescope (managed in Loiano by INAF-Osservatorio Astronomico di Bologna) and its instrumentation, its contribution to the Gaia Alerts programme, and the prospects and challenges we expect to face in the near future.

Goran Damljanovic
Observations of Gaia Alerts by using Serbian-Bulgarian mini-network telescopes during 2016

There are about 1000 Gaia Alerts (by the Gaia Science Alerts group) for two and a half years. During that period, we established the Serbian-Bulgarian mini-network telescopes (now, 6 instruments) and observed about 30 Gaia Alerts objects. From May 2016, there is new 1.4 m telescope at the Astronomical Station Vidojevica site (ASV, Serbia) of the Astronomical Observatory in Belgrade (AOB); also, there is the 60 cm ASV from 2010. In Bulgaria, we use two sites: the Rozhen one (National Astronomical Observatory - NAO, Bulgarian Academy of Sciences - BAS) with three instruments, and the Belogradchik AO with one instrument. Some observations and results are presented here.

Volkan Bakis
Recent Studies and Available Facilities of the Akdeniz University Space Sciences Group

In this talk, telescope facilities of the Akdeniz University Space Sciences and Technologies Department will be described together with recent studies of the academics in the Space Physics division. Moreover, contribution made so far by our telescopes to Gaia Photometry Followup team and research with the present Gaia data will also be given.

Orhan Erece
Gaia Sources Observations with TUG Telescopes

Three telescopes (RTT150, T100, T60) of TÜBİTAK National Observatory (TUG) actively participate follow-up observations of Gaia sources. Gaia16aye's last brightening up of the binary microlensing event was detected in November 12th with RTT150 telescope (ATel#9753). In November 20th all TUG telescopes performed both its spectral and photometric observations including near maximum brightness. We have continued to work on these data. Flux variations of Gaia14aat were found range of 1.63 mag for 5 days with T100 telescope. The other Gaia observational sources are presented.

Andreja Gomboc
Gaia Alert Spectroscopy with SPRAT at the Liverpool Telescope