ABSTRACTS - Participants' sessions II

Application of fuzzy logic to data mining in sky surveys

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A new algorithm for automatic classification of astronomical objects will be presented. Because of utilisation of measurement uncertainties, this SVM-based algorithm provide more realistic and efficient classification than classic SVM. Results of classification of the AKARI-NEP data will be presented.

A correlation of spectroscopic and color parameters for zCOSMOS galaxy survey in the redshift interval 0.5-1.0

Oskar Kopczyński (O.Kopczynski@oa.uj.edu.pl)

Based on new spectro-morphological categorization introduced for zCOSMOS high redshift galaxy survey, we analyze color distribution for derived groups. We detect high correlation between newly introduced spectroscopic parameter ZmiennaOII (a combination of D4000 index and [OII]3727 A line equivalent width) and several color indices based on observational magnitudes for given redshift interval.

Low-frequency observations of a hybrid blazar

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High dynamic range radio imaging of BL Lac objects sometimes reveals the presence of a diffuse, extended radio emission. Among them, there is quite unique source which merges the properties of BL Lac and FSRQ. With the help of the radio data we have disclosed and investigated an extended structure of this hybrid object, which could be caused by a multiple jet activity of the central AGN.

OGLE blazars behind Magellanic Clouds

Natalia Żywucka-Hejzner (Natalia.Zywucka@uj.edu.pl)

We report blazar candidates behind the Large and Small Magellanic Clouds. Both Flat Spectrum Radio Quasar and BL Lacreate objects are selected based on long-term, multi-colour OGLE-III and OGLE-IV data. We cross-correlate the optical catalogue of quasars behind the Magellanic Clouds with radio data at 6 frequencies from 0.8 to 20 GHz. Among the 1654 objects visible in optical range, we identify a sample of 44 blazar candidates, i.e. 27 flat spectrum radio quasars and 17 BL Lacertae. We examine selected objects with the respect to their radio, optical, and mid-infrared properties. Most of the selected sources are newly detected FSRQ and BL Lac blazar candidates.

The properties of active galaxies at the extreme of eigenvector 1

Marzena Śniegowska (Marzena.Sniegowska@student.uw.edu.pl)

Eigenvector one is the formal parameter which allows to introduce some order in the properties of the unobscured type 1 active galaxies. I aim at the understanding of the nature of this parameter, and with this purpose I analyse the most extreme examples of quasars with the highest possible values of the corresponding eigenvalues R_Fe.

The physical driver of Eigenvector 1 in Quasar Main Sequence

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Analogous to the problem of identification of the entities that govern the stellar main sequence on the HR diagram, Eigenvector 1 (EV1), is defined to be the horizontal trend with the Fe II strength (R Fe II = EW Fe II /EW Hβ). We propose that the physical driver of EV1 is the maximum of the accretion disk temperature that depends both on the Eddington ratio and the black hole mass.

Quasars observations by SALT telescope in cosmological context

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