Seminarium Astrofizyczne
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ul. Pasteura 7; sala 404

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Quasar detection in Kilo-Degree Survey with machine learning approach

Broad spectroscopic lines, large redshift range and variety of properties make quasar detection in photometric surveys a particularly difficult task. I will present a machine learning based quasar detection method in photometric ugri data from Kilo-Degree Survey (KIDS) - an imaging deep and wide field survey covering 447 sq. deg. on the sky. The KiDS third data release contains 49 millions of sources among which, however, a vast majority does not have any spectroscopically confirmed identification. We successfully trained a Random Forest classifier using SDSS spectroscopic confirmations and created a catalogue of 190,000 quasar candidates, which training purity equals 91%. Validation of the catalogue was made by comparison with GAIA second data release, other already existing quasar catalogues and WISE data. Additionally, I will present first results of classification and redshift estimation using near-IR data from KiDS DR4.

Serdecznie zapraszam,
Agnieszka Majczyna