

Seminarium Astrofizyczne

wtorek 10 grudnia, godz. 15:00

ul. Pasteura 7, sala 404

transmisja on line

<https://meet.goto.com/NCBJmeetings/seminarium-astrofizyczne>

Password: AstroSemi

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Reverberation mapping - Two unusual cases of continuum reverberation

The measurement of continuum reverberation mapping is an effective method for probing the accretion physics of quasars. In our study, we examined various unique examples to gain a deeper understanding of the physical processes occurring in quasars.

First, we evaluated the widely used "lamppost" thermal reprocessing model, which can be tested by measuring interband time lags in quasars with different levels of X-ray power. We discovered an interband time lag in a quasar identified as SDSS J153913.47+395423.4. Notably, we detected a significant cross-correlation with a time delay of approximately 33 days in the observed frame using the Zwicky Transient Facility's g and r light curves.

Second, we measured the continuum time lags in the lensed quasar Q0957+561. By combining microlensing results with time lag measurements, we were able, for the first time, to estimate the propagation velocity of the physical processes driving interband time lags and cross-correlations among disk emissions (i.e., in UV/optical bands). Alongside the half-light radius from existing literature, we found that the propagation velocity of variability mechanisms should be a certain factor times the speed of light.

Through these studies, we propose alternative models that should be considered based on a broader sample. I will discuss the potential outcomes of these results.

Please note the unusual time and that we have seminars on **both** Monday 9 and Tuesday 10.

Serdecznie zapraszam,
William Pearson, on behalf of the SOC