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Bartosz Bełdycki - Ray-traced spectra from the matter moving around compact objects

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Accreting systems, i.e. consisting of an accretion disk around compact object, are well visible on the X-ray range. To be able to theoretically explain the broadband spectrum of there object in accordance with observations, we need several emission components.
In a previous years, we showed that there is possibility of modeling the emission of such sources, if we sum up emission from the source, taking into account the fact that these objects are not spherically symmetrical and the emission depends on the observer's inclination. In addition, we showed that it is possible to use such counted models to estimate the distance to the source, which coincided with the values obtained by observation methods.
Our main goal is to answer the question whether it is possible to explain the shape of the spectrum observed in the X-ray range, using a model that will reconstruct the emission from a source with non-spherical symmetry including the effects associated with a strong gravitational field near compact objects together with accurate modeling of the accretion disk's atmosphere.
In this talk, I will discuss how the reconstruction proceeds and at what stage of development we are currently.

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