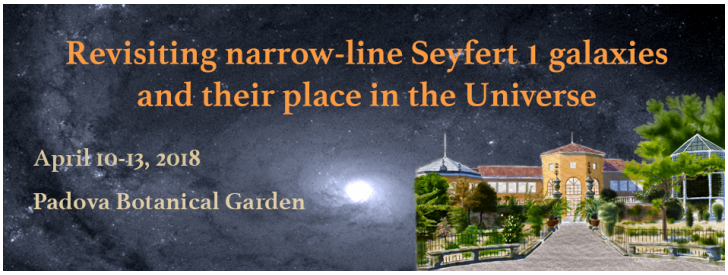

Contribution ID: **16** Type: **Talk**

Testing strong gravity with RELXILL_NK and the black hole in Ark 564

Thursday, 12 April 2018 15:50 (20 minutes)

Einstein's gravity has been extensively tested in the weak field regime, mainly with experiments in the Solar System and observations of binary pulsars, and current data well agree with theoretical predictions. On the contrary, strong gravity is largely unexplored and there are a number of theories beyond Einstein's gravity having the same predictions for weak fields and presenting deviations only when gravity becomes strong. The best laboratory for testing strong gravity is the spacetime around astrophysical black holes. X-ray reflection spectroscopy can be a powerful tool to probe the strong gravity region around astrophysical black holes and test the nature of these objects. In this talk, I will introduce RELXILL_NK, which is the first XSPEC reflection model to test Einstein's gravity in the strong field regime, and I will present the constraints on possible deviations from Einstein's gravity that I have obtained by analyzing Suzaku data of Ark 564.

Motivation

My Department will only support me for the conference if I am given an oral presentation (talk) there. If talk is given to me in conference, then my expenses will be borne by my department. If I don't give talk, then I need the grant to support my trip to Italy.

Grant

yes

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