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Testing astrophysical black holes using X-ray reflection spectroscopy COSIMO BAMBI, Fudan University — 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 present `RELXILL_NK`, which is the first XSPEC reflection model to test Einstein's gravity in the strong field regime, and I will show some preliminary results from *XMM-Newton*, *NuSTAR*, and *Suzaku* data.

Cosimo Bambi
Fudan University

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