

# AN EXTENSION OF THE RELXILL X-RAY REFLECTION MODEL FOR NON-KERR SPACETIMES

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X-ray reflection spectroscopy is a powerful tool for testing the strong gravity region around astrophysical black holes. RELXILL is currently the most advanced X-ray reflection model to describe the reflection spectrum of thin accretion disks around Kerr black holes. In this talk I will present the RELXILL\_NK model, a recent extension of RELXILL to a generic stationary, axisymmetric, and asymptotically flat black hole metric (Astrophys.J. 842: 76, 2017). Preserving the accuracy of the Kerr spacetime, the extended model can be employed to test the Kerr black hole hypothesis. I will also present recently found constraints on possible deviations from the Kerr metric using observational data (Phys.Rev. D98 2, 023018, 2018).