

# DECAY FOR THE TEUKOLSKY EQUATION ON SUBEXTREMAL KERR BLACK HOLES

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The Teukolsky equation is one of the fundamental equations governing linear gravitational perturbations of the Kerr black hole family as solutions to the vacuum Einstein equations. We show that solutions arising from suitably regular initial data decay inverse polynomially in time. Our proof holds for the entire subextremal range of Kerr black hole parameters,  $|a| \leq M$ . This is joint work with Yakov Shlapentokh-Rothman (Toronto).