

Abstract Submitted
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Stream Evolution of Tidal Disruption Events of Main Sequence Stars by Supermassive Schwarzschild Black Holes¹ JOE ROSSI, JUAN SERVIN, MICHAEL KESDEN, University of Texas at Dallas — When a star becomes close enough to a black hole that it falls within the tidal radius, the tidal gravitational field of the black hole is strong enough to rip the star apart. This forms a stream of debris which orbits and eventually circularizes about the black hole after relativistic precession causes the stream to collide with itself. It has been thought that the circularization process happens rather quickly. In this talk I will present a new model which shows that this might not be the case. Results will be presented outlining a lower limit for the time of the circularization process along with some of its other properties for various values of black hole mass and penetration factor, which defines the stars angular momentum.

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Joe Rossi
University of Texas at Dallas

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