

BLACK HOLES IN DENSE STAR CLUSTERS
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TITLE: Decoding the Signatures of SMBH Binaries

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A search for a well defined sample of sub-parsec supermassive black hole binaries (SBHBs) remains one of the principal goals in the field of black holes and galaxy evolution. However, an equally important and timely consideration is: what can be learned once such sample is available? Motivated by advances in observational searches for SBHBs made in the past few years we develop a model to describe the spectral emission line signatures of these systems. The ultimate goal of this work is to enhance the scientific return of spectroscopic searches for binaries and use them to test one of the leading models of binary accretion flows in the literature: SBHB in a circumbinary disk. I will describe results from our first-generation model and their implications for our ability to learn about the properties of sub-parsec SBHBs.