

MULTIPLICITY IN STELLAR AND PLANETARY ASTROPHYSICS

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Tuesday, December 4 ❖ 12:30 P.M. ❖ 184 NSH

Binary and multiple stellar systems are common outcomes of the star formation process. More importantly, multiple systems contribute disproportionately to our understanding of topics ranging from stellar structure to cosmology. In this talk I will describe several theories for binary and multiple star formation, focusing on the role of protostellar accretion disks. I show that two modes of binary formation may account for the dependence of the observed binary fraction on stellar mass. Next, I will examine the architecture of binary planetary systems, with a focus on the role of stellar evolution on long term stability.