

ABSTRACT ONLYSTUDY OF THE DISSIPATION TIMES OF
GASEOUS DISKS IN STELLAR POPULATIONSJ. L. Gomez^{1,2}, O. Guilera²,
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Protoplanetary disks are the sites of planet formation. For this reason a correct modelling of protoplanetary disks is key to understanding planetary formation. In this work we present a disk population synthesis study aimed at reproducing the available observable properties of protoplanetary disks. We consider that disks evolve by viscous accretion and internal photoevaporation. The initial conditions, such as the masses and sizes of the discs, follow statistical distributions inferred from observations. We analyze the impact of stellar mass distributions and star formation rates on the time evolution of the fraction of stars with disks, and on the stellar mass accretion rates.

Our models show that, because massive stars dissipate their disks faster, the observed fraction of stars with disks in star-forming regions is dominated by disks around low-mass stars. The lifetime of protoplanetary discs has an uncertain distribution function, to calculate the average lifetime of disc on star formation region we consider that it follows a Log-normal distribution. From our models, we obtain a median disk lifetime of 4.2 My, showing very good agreement with observations.

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