



On the influence of boundary conditions in a binary system

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Abstract

Kley et al. [1] showed that hydrodynamical simulations concerning the evolution of disks in a binary system are strongly depending on the chosen inner boundary condition. In a more recent work Marzari et al. [3] examined the influence of selfgravity in such systems. In the presented work we examine the influence of the inner boundary and selfgravity on either the disk and the secondary. For this we use two different boundary conditions, one proposed by Kley [2] and a non reflecting boundary condition proposed by Godon [4]. We use different disk profiles, different Shakura Sunyaev values and different disk masses and measure the drift rates in semimajor axis and eccentricity. We further want to determine Fourier components and measure the torque the disk exerts on the secondary at different radii.

References

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