



## Global transient dynamics of Keplerian disks

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By means of asymptotic expansions we study the nonlinear global dynamics of of rotationally supported disks characterized by an  $\alpha$  viscosity. In a self-consistent way, steady state solutions are developed order by order in powers of the small parameter ( $\epsilon$ ) describing the aspect ratio of the disk structure. We recover previous results predicting backflow in the disk. We focus here on axisymmetric initial-value dynamics and find that the system exhibits strong transient response although the system is stable for long times. We assess these results in the context of real disk systems and with regards to secondary instabilities.