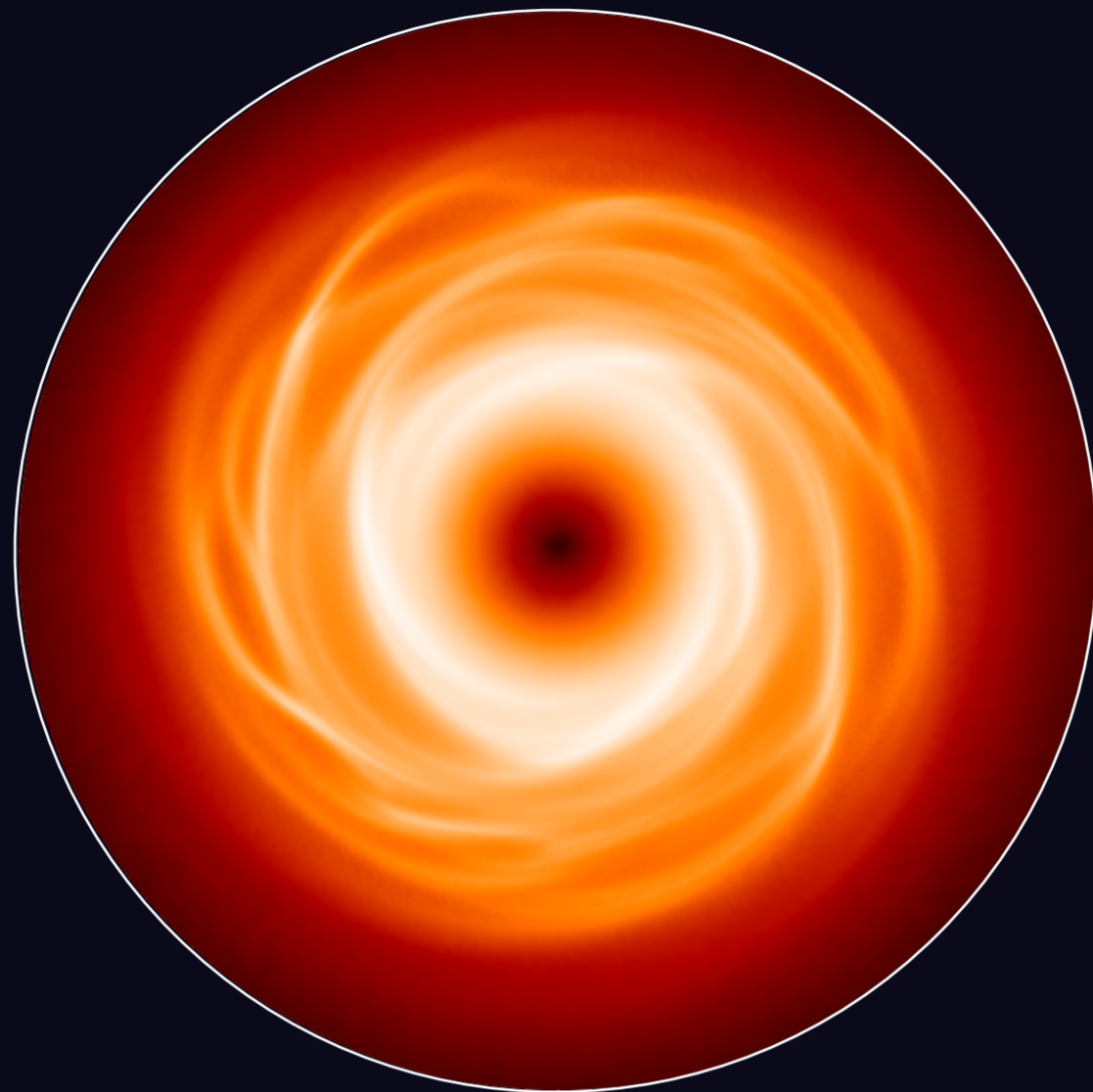


SUPPRESSING GRAVITATIONAL INSTABILITIES IN PROTOPLANETARY DISCS

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Scan for more details
with animations!



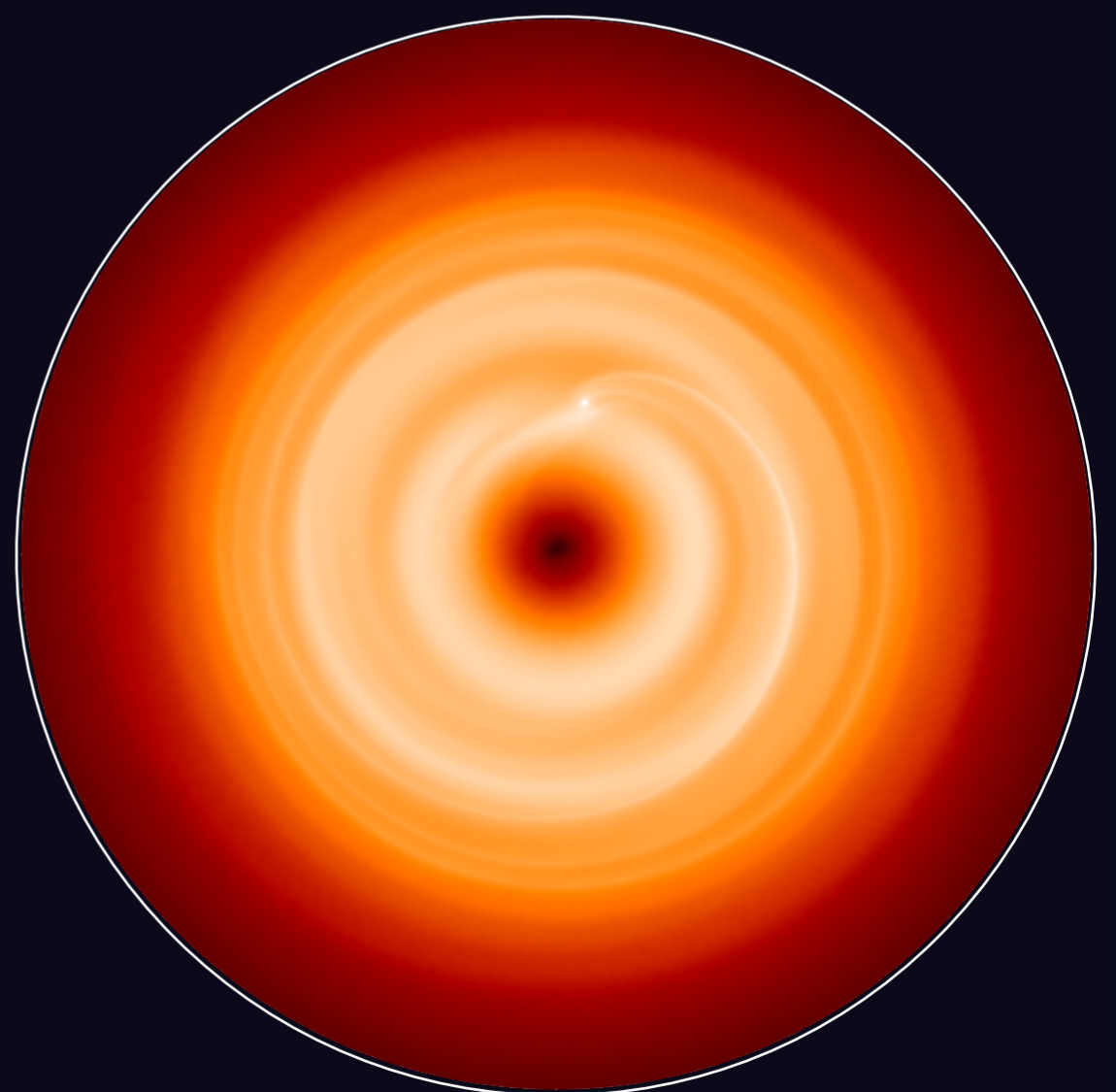
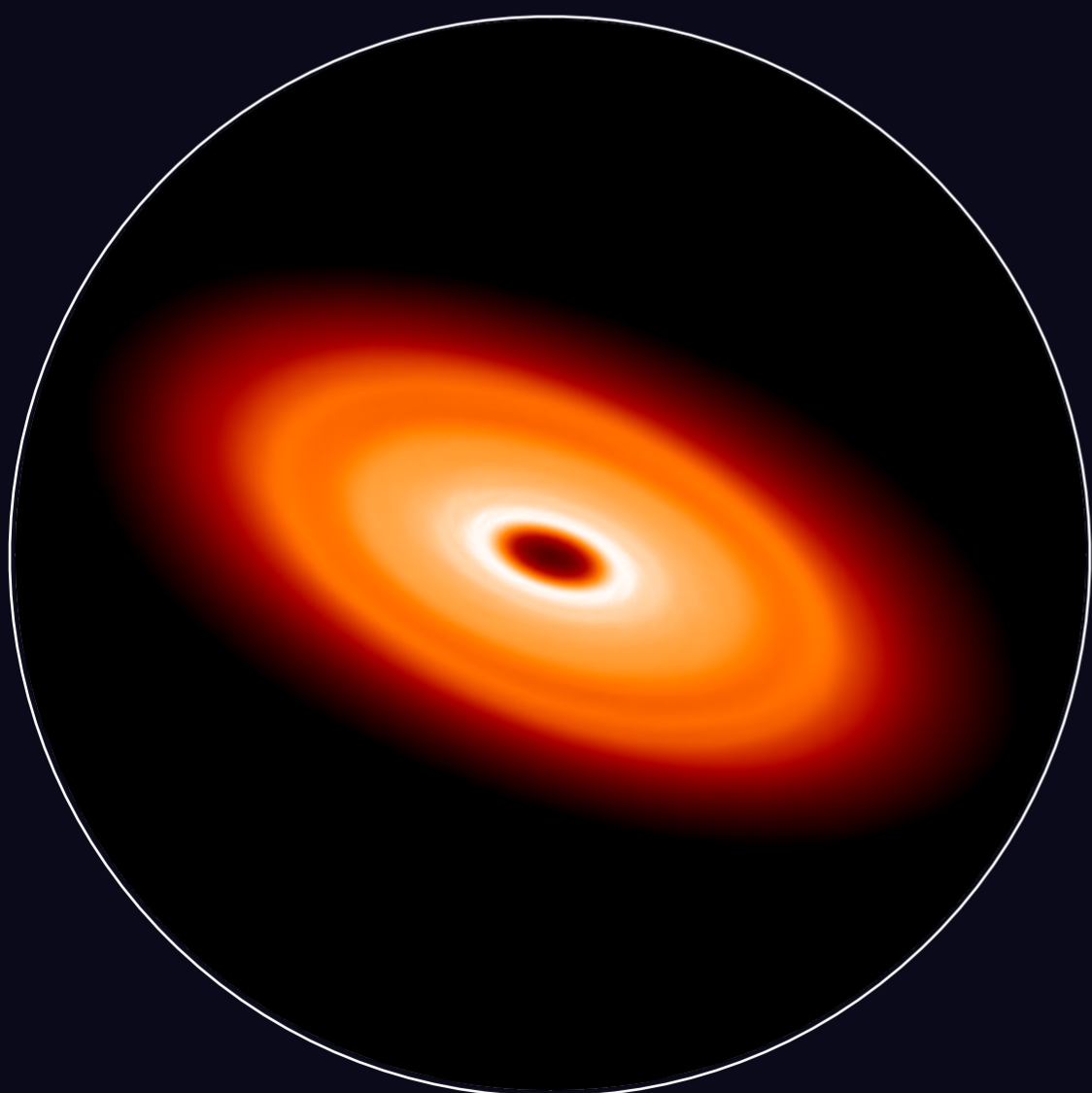
Evolution of a gravitationally
unstable disc into a stable disc by

Warping the Disc

Rowther, Nealon, & Meru (2022)

Introducing a $3M_{Jup}$ Planet

Rowther et al. (2020), Rowther, Nealon, & Meru (2023)



Spiral structures due to gravitational instabilities are suppressed by a warp or a planet yielding an axisymmetric disc.