

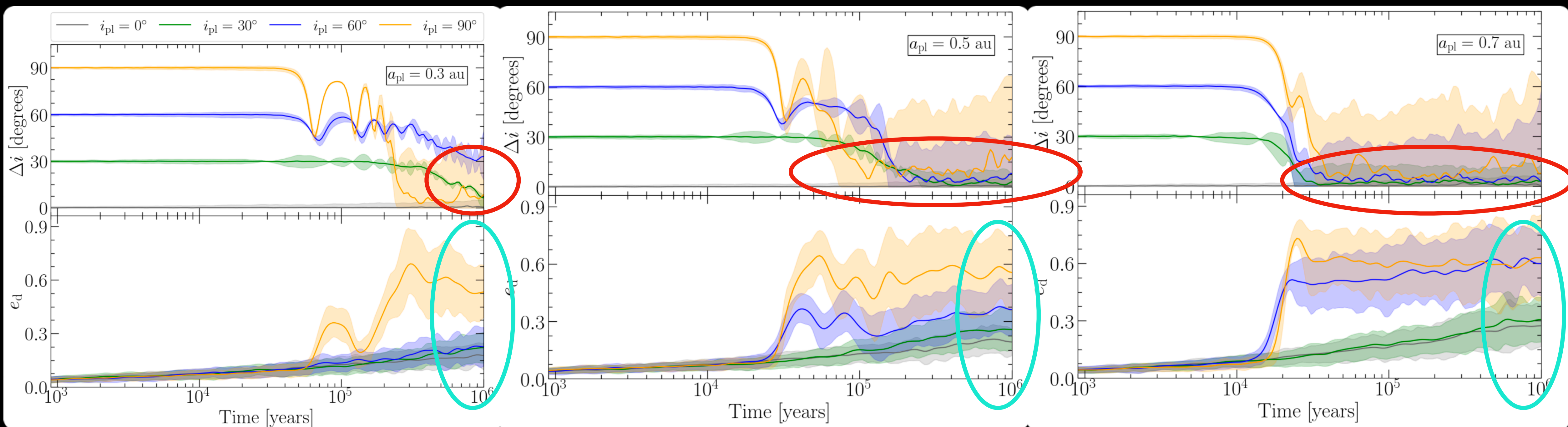
# Self-gravity of debris discs can strongly change the outcomes of interactions with inclined planet

*Pedro P. Poblete, Torsten Löhne, Tim D. Pearce, and Antranik A. Sefilian*

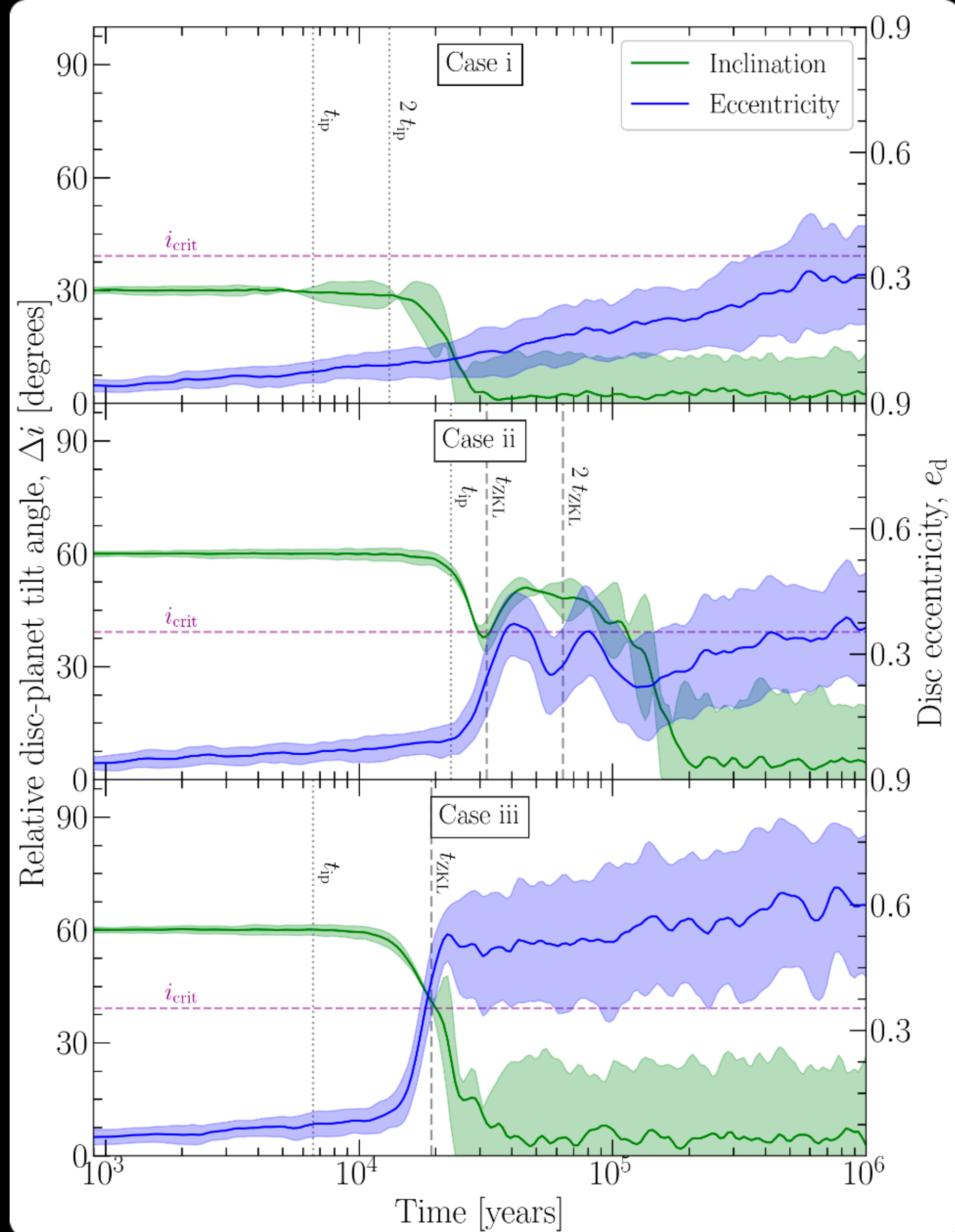
**REBOUND**

**Inclination & eccentricity evolution**

**Quasi-coplanar**



# Self-gravitating debris disc



$$a_{pl} = 0.7 au$$

$$i_{pl} = 30^\circ$$

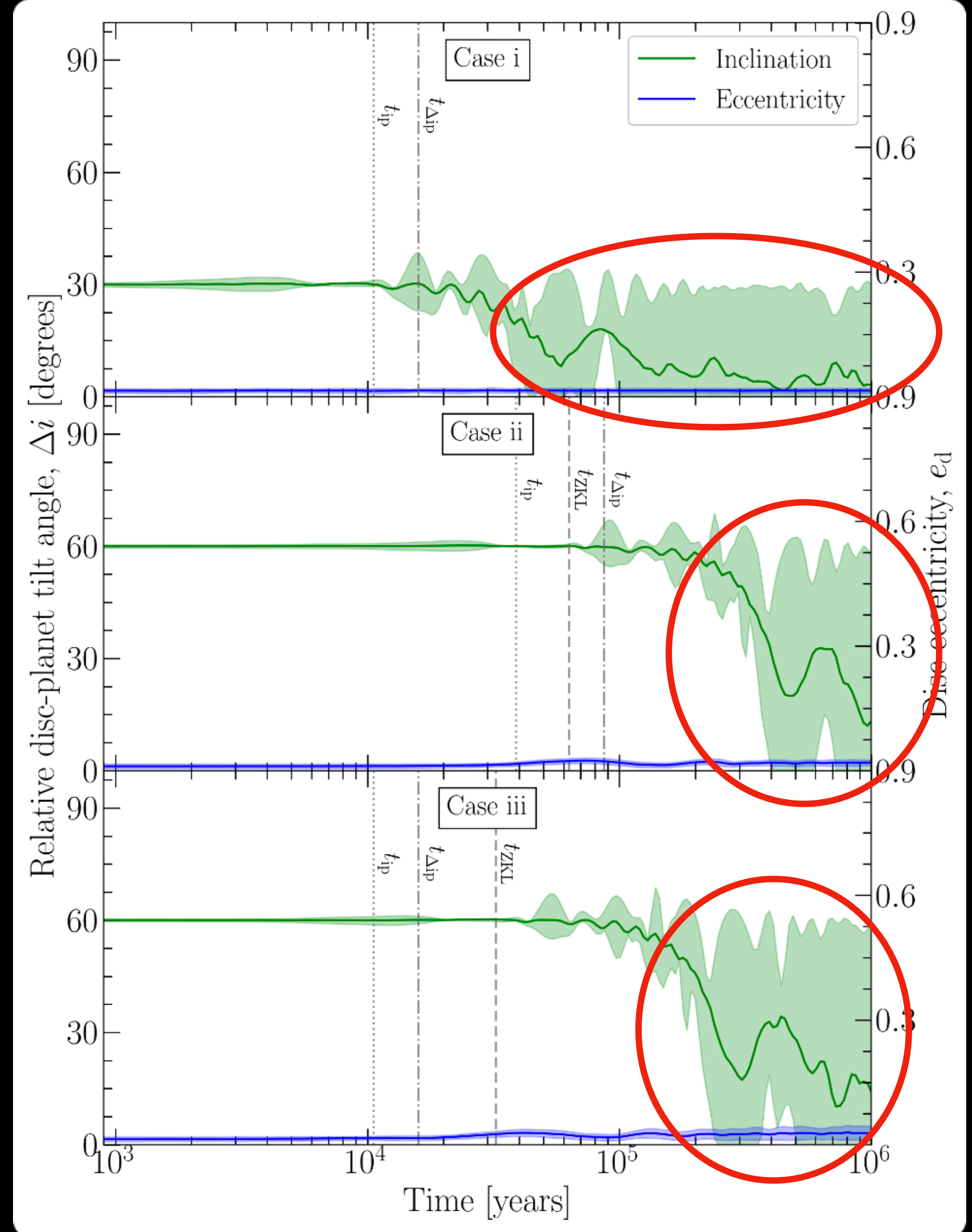
$$a_{pl} = 0.5 au$$

$$i_{pl} = 60^\circ$$

$$a_{pl} = 0.7 au$$

$$i_{pl} = 60^\circ$$

# Massless debris disc



High  
Dispersion

$$\Delta i \neq i_{pl}$$



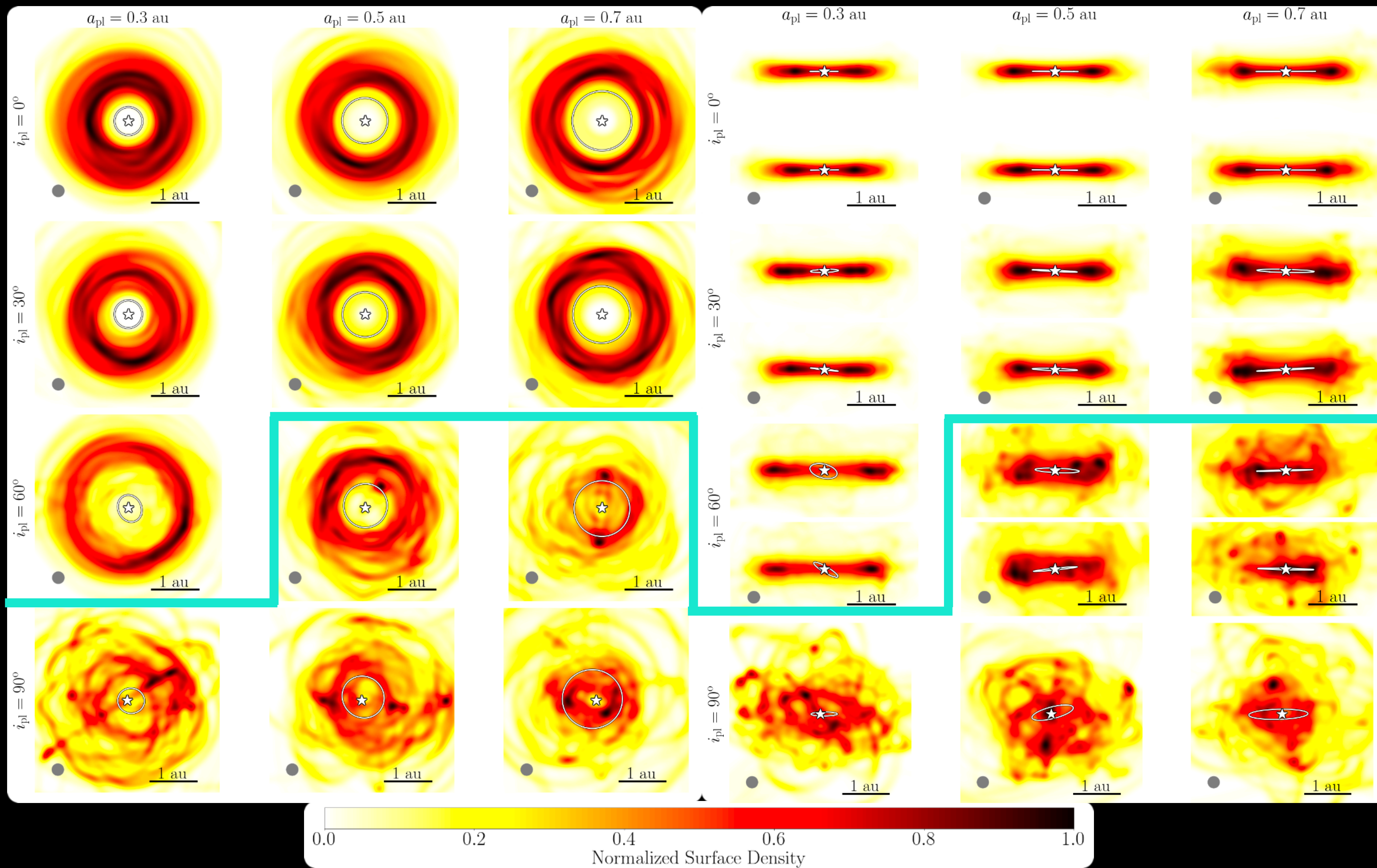


1 Myr

Face-on

# Morphology

Edge-on



Similarity

Caution in  
interpreting  
the  
dynamic  
history of  
the debris  
disc by  
only  
observing  
it!