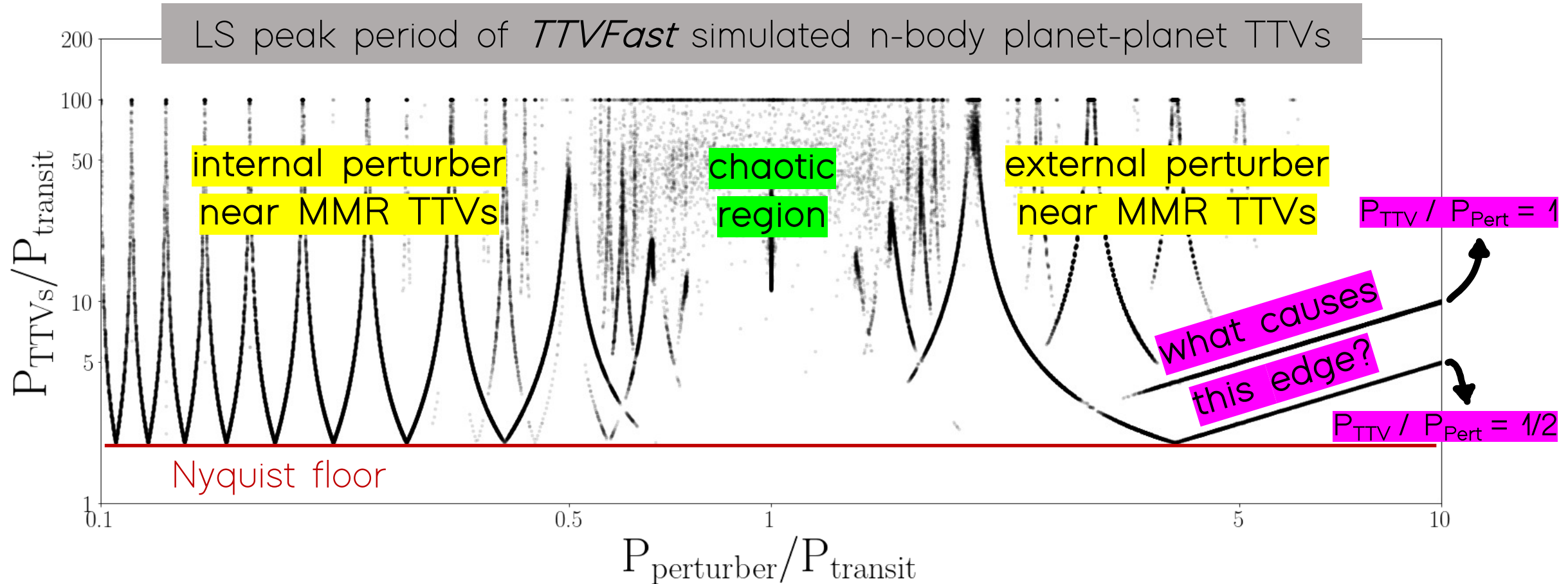


the exoplanet edge:

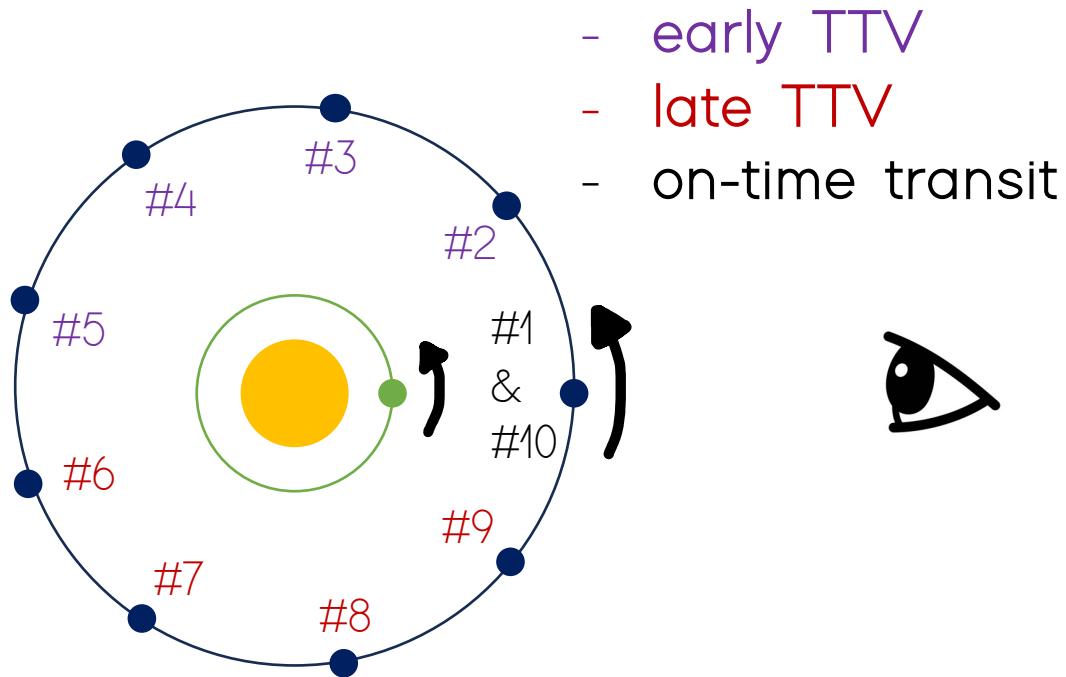
minimum TTV period from an external perturbing planet



Daniel A. Yahalomi w/ David Kipping, Eric Agol, and David Nesvorny
Columbia AstroFest 2023 | September 22, 2023

the exoplanet edge:

minimum TTV period from an external perturbing planet

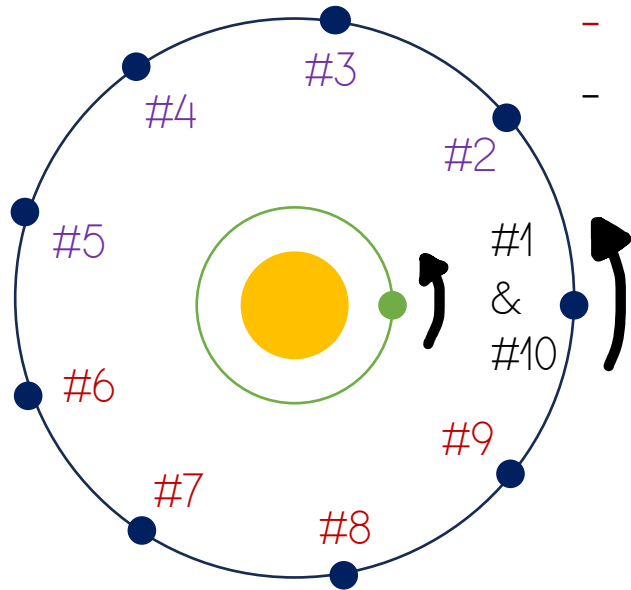


conjunction induced TTV periods:

$$P_{syn} = \frac{1}{|1/P_1 - 1/P_2|}.$$

the exoplanet edge:

minimum TTV period from an external perturbing planet



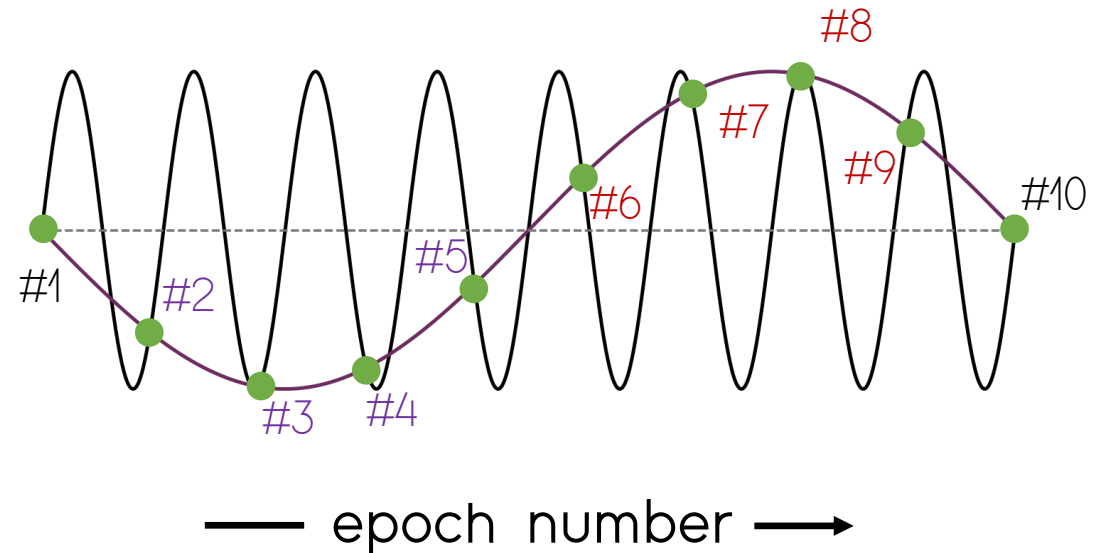
- early TTV
- late TTV
- on-time transit



conjunction induced TTV periods:

$$P_{syn} = \frac{1}{|1/P_1 - 1/P_2|}.$$

interior planet TTVs



takeaway:

if $P_p > 2P_t$, then conjunction TTV signal will be aliased with a period = P_p .