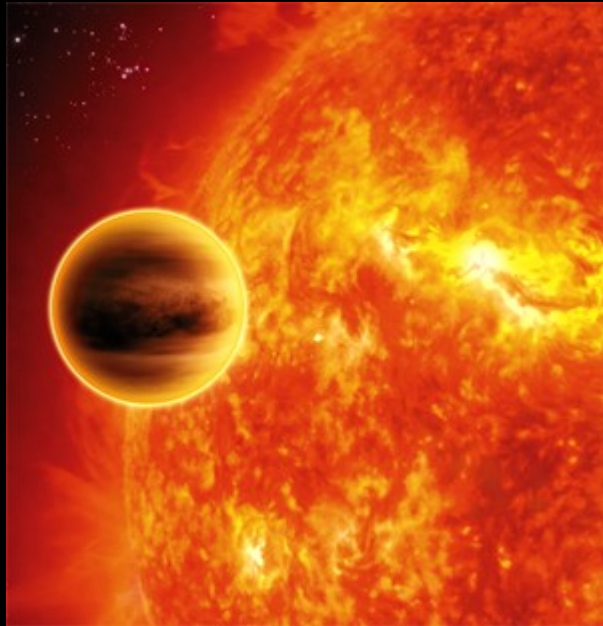


Simulations of Planet Migration Driven by Planetesimal Scattering

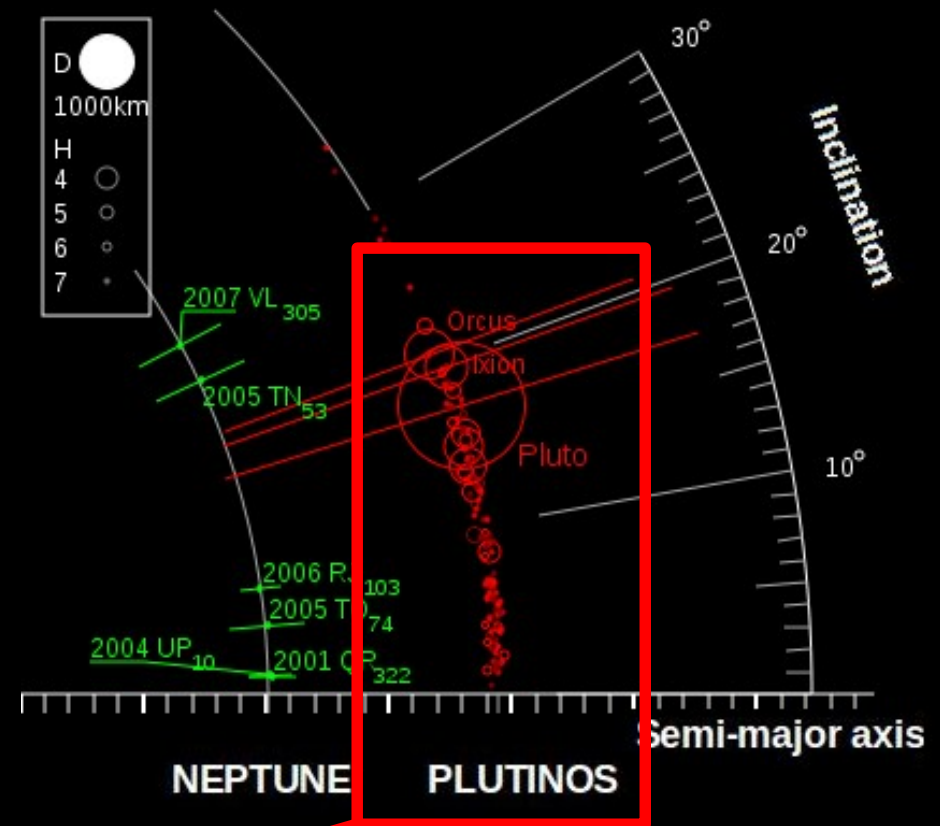
Kirsh, D., Duncan, M., Brasser, R., Levison, H.

Jessica Donaldson

Evidence for Planetary Migration



1) Hot Jupiters



2) 3:2 Resonance of Plutinos w/ Neptune

Planetesimal Scattering → Migration

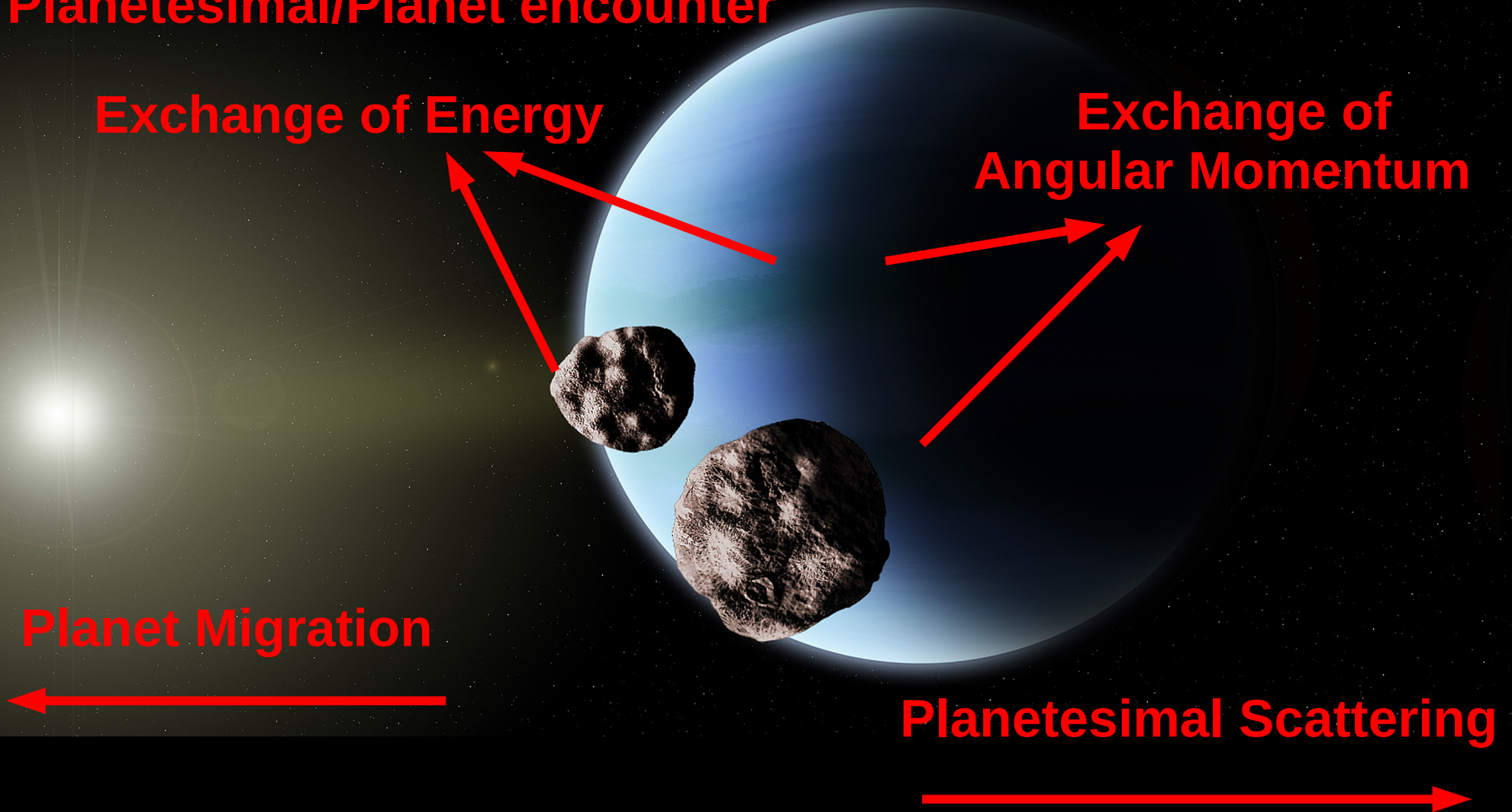
Planetesimal/Planet encounter

Exchange of Energy

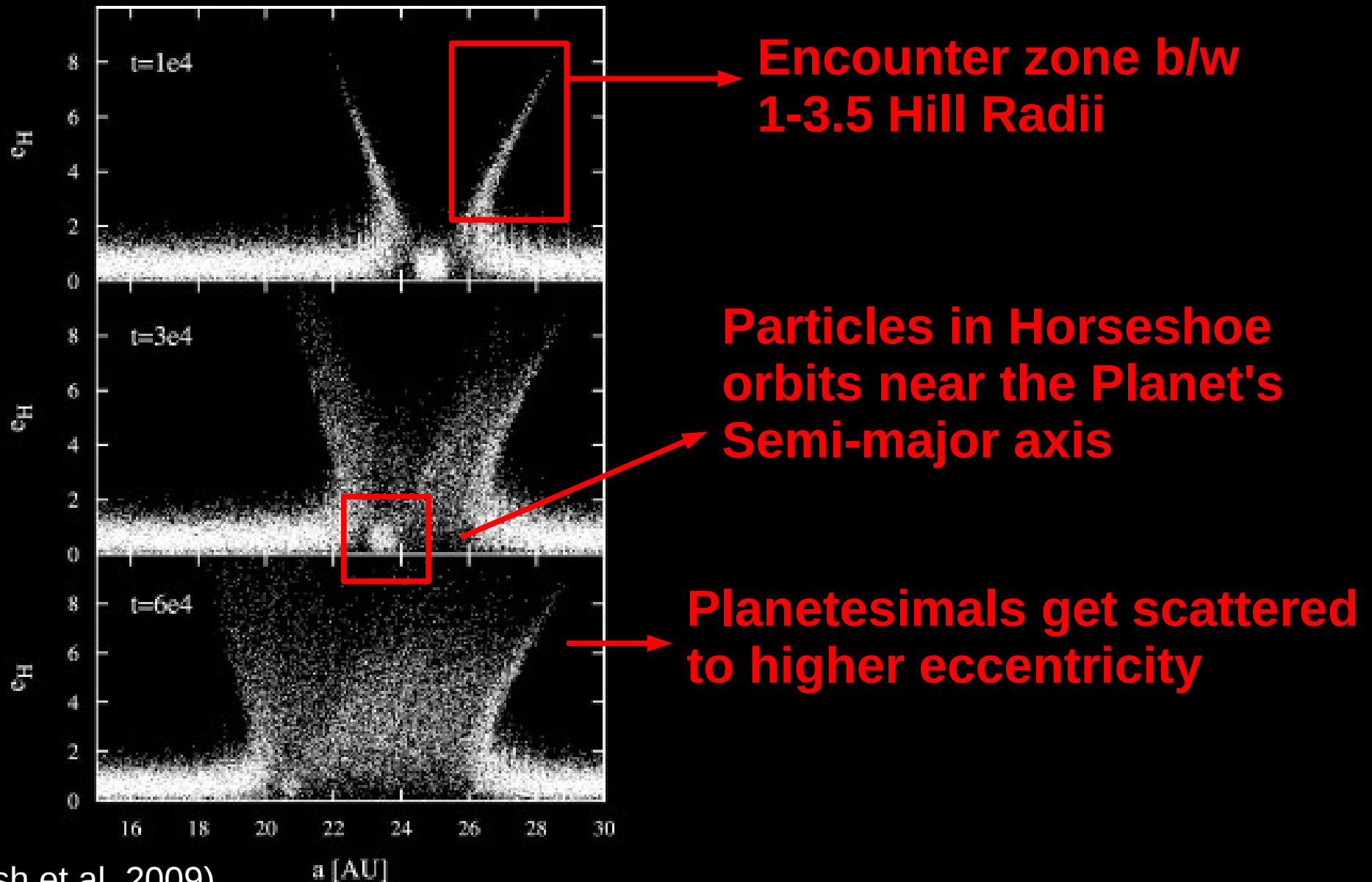
Exchange of Angular Momentum

Planet Migration

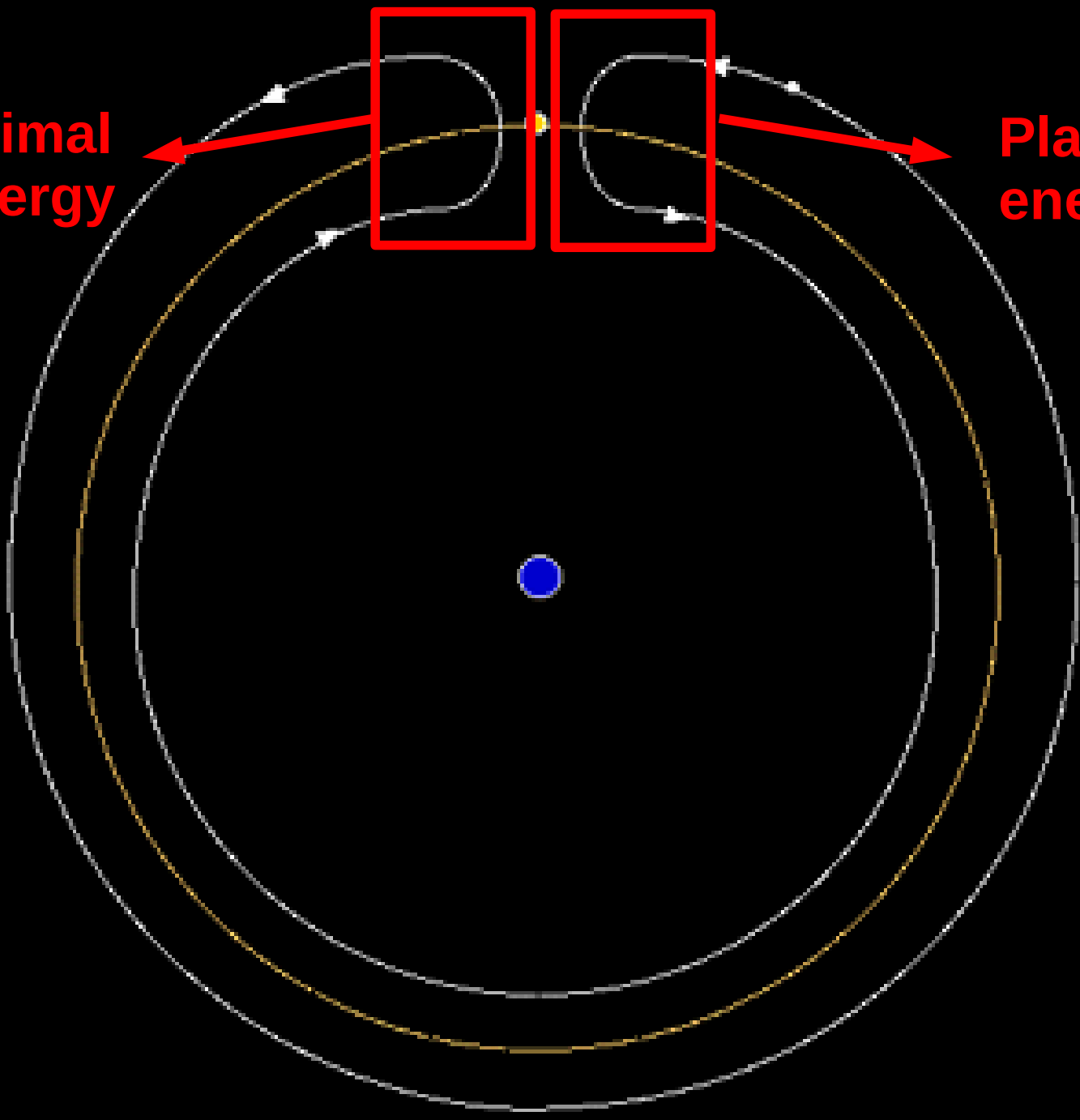
Planetesimal Scattering



Migration Simulations

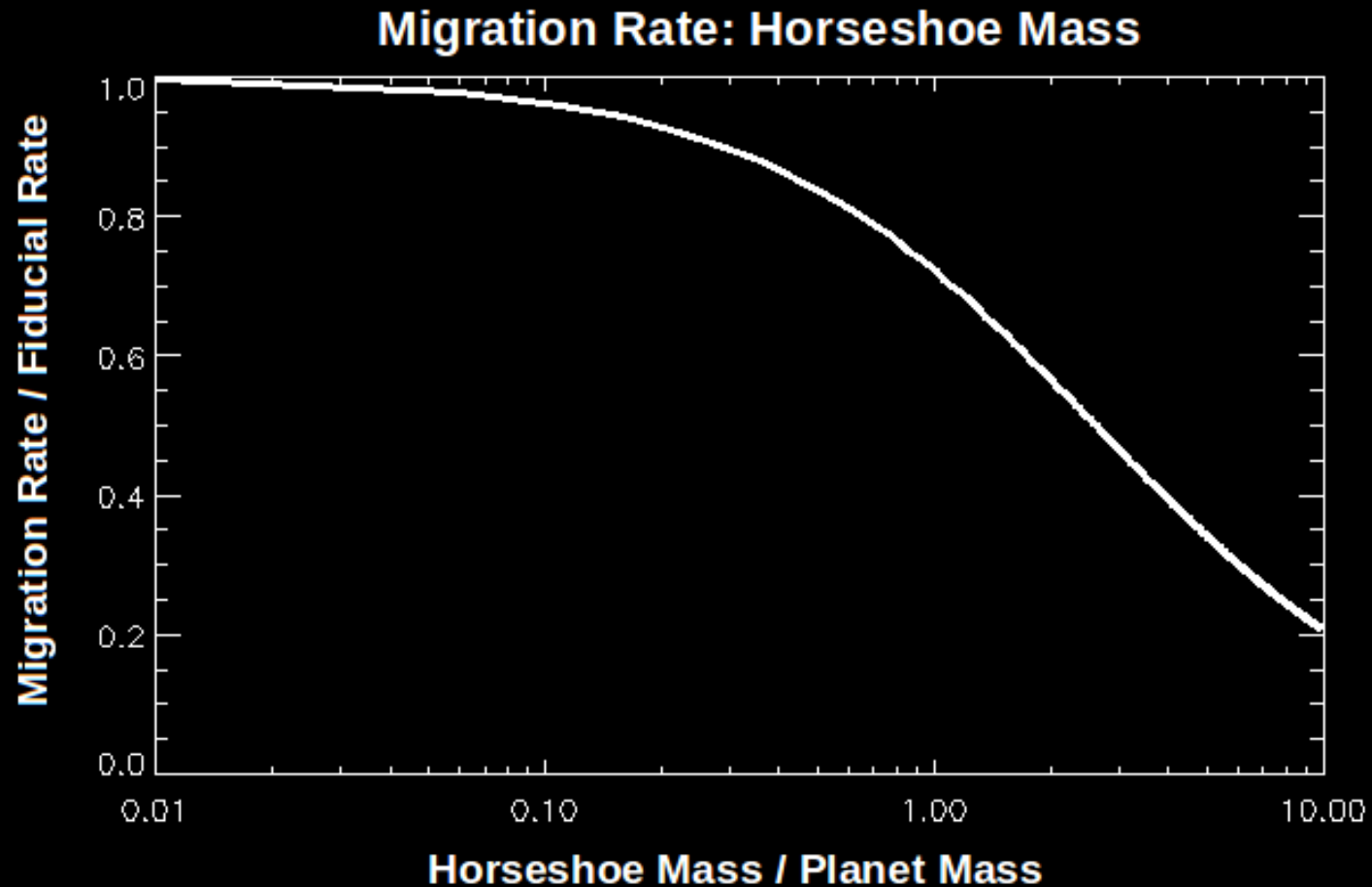


**Planetesimal
gains energy**



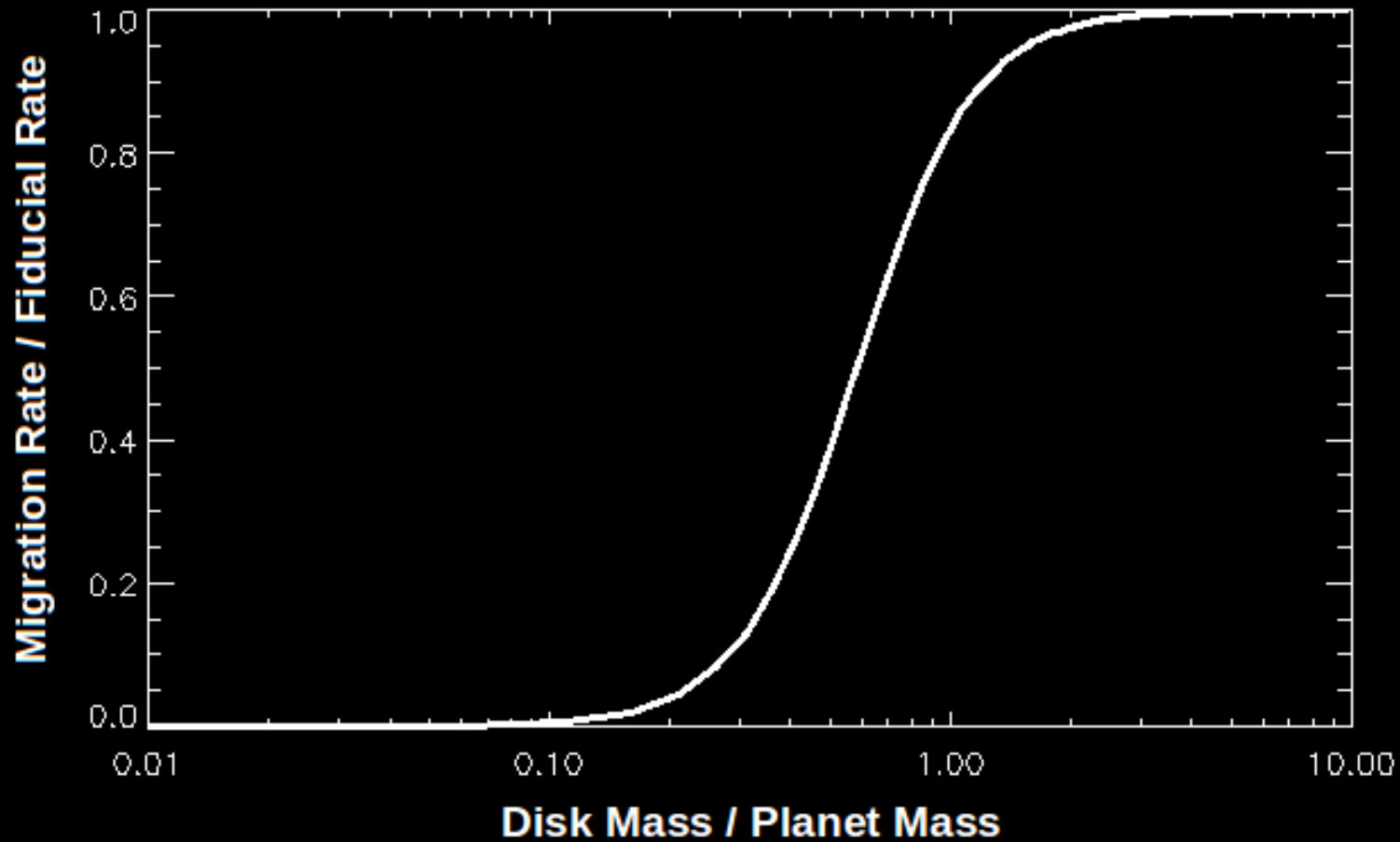
**Planet gets
energy back**

Horseshoe Mass

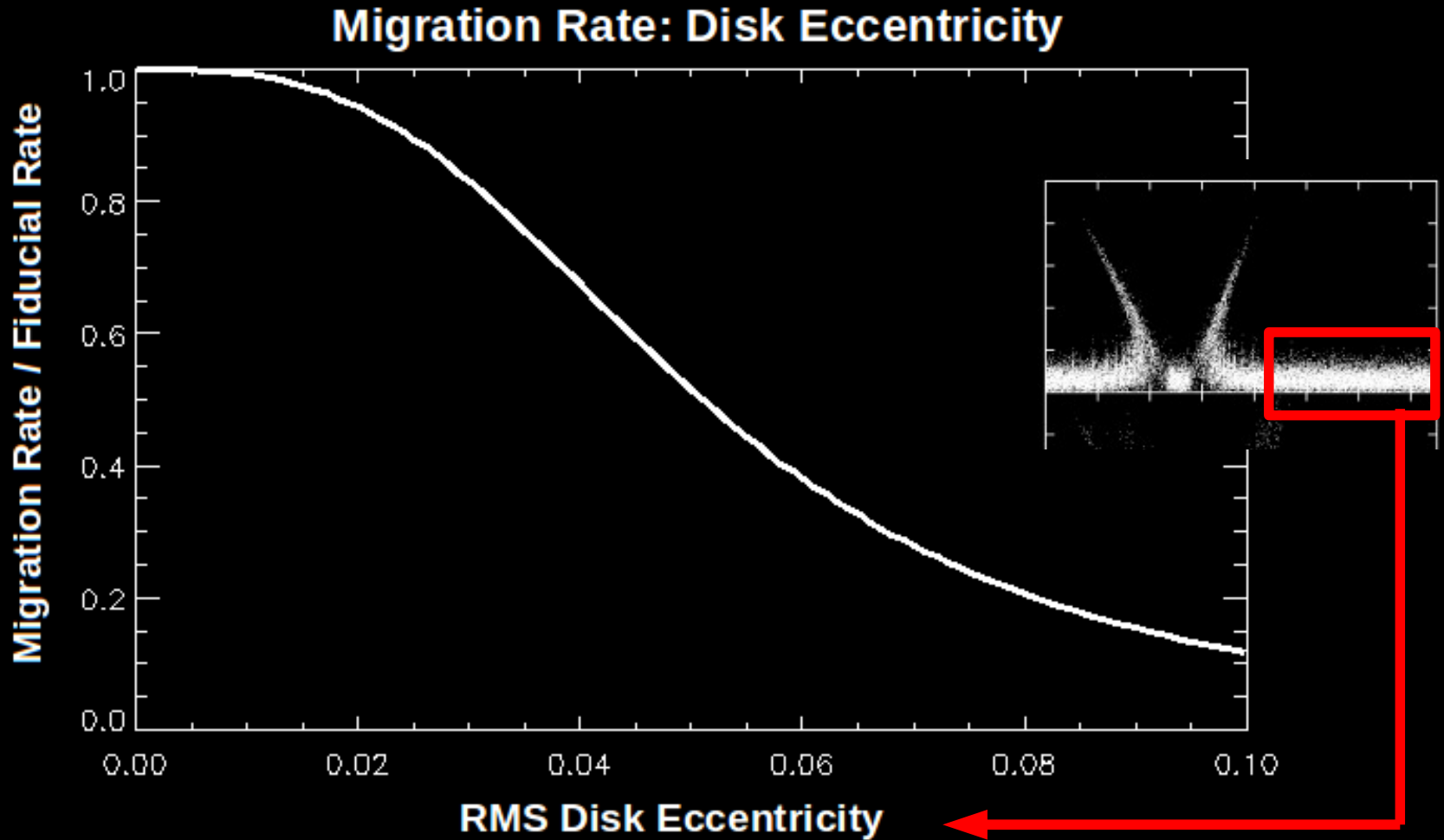


Disk Mass

Migration Rate: Disk Mass



Disk Eccentricity



Questions ?