

(134340)

Pluto

„ZTRACENÁ PLANETA“ PLUTO

Definice planety:

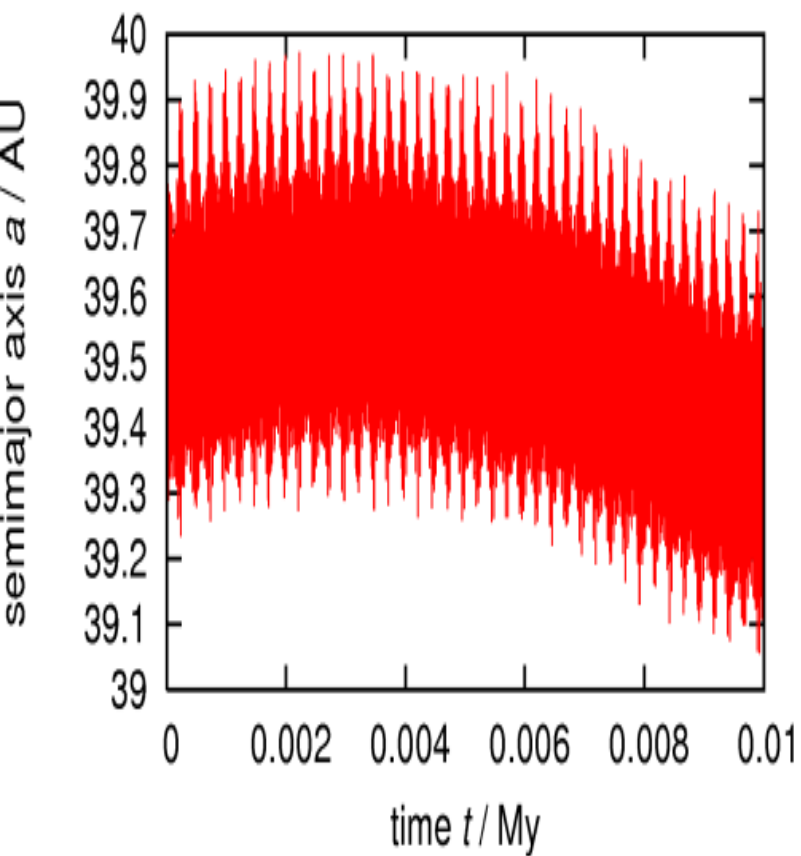
1. návrh:

- obíhá hvězdu
- hydrostatická rovnováha
- barycentrum uvnitř primáru

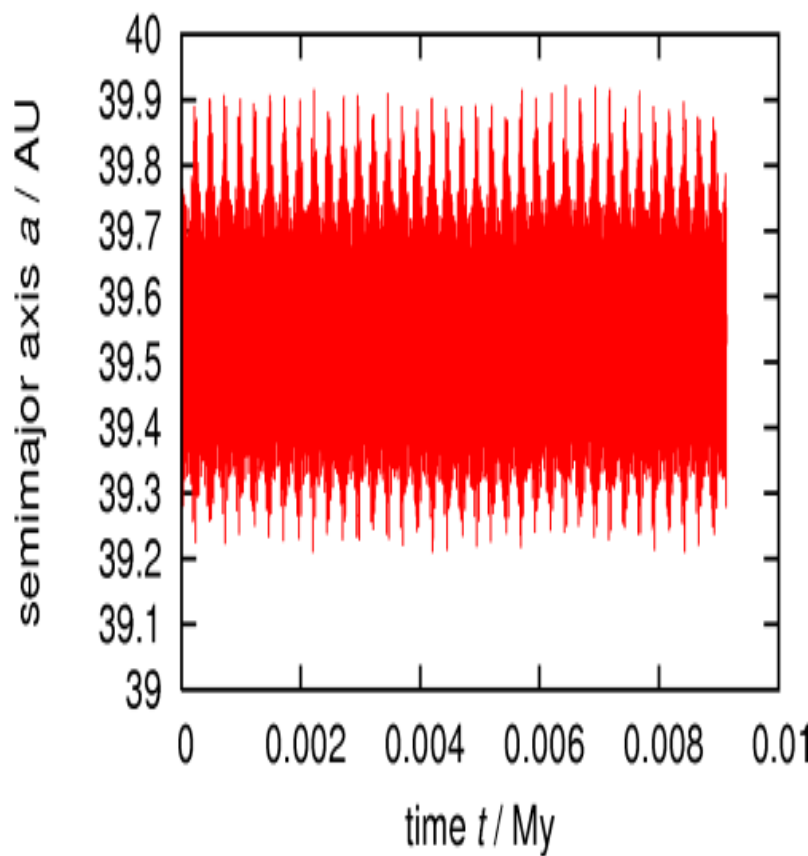
konečná rezoluce IAU:

- obíhá Slunce
- hydrostatická rovnováha
- „vyčistila“ svou oblast

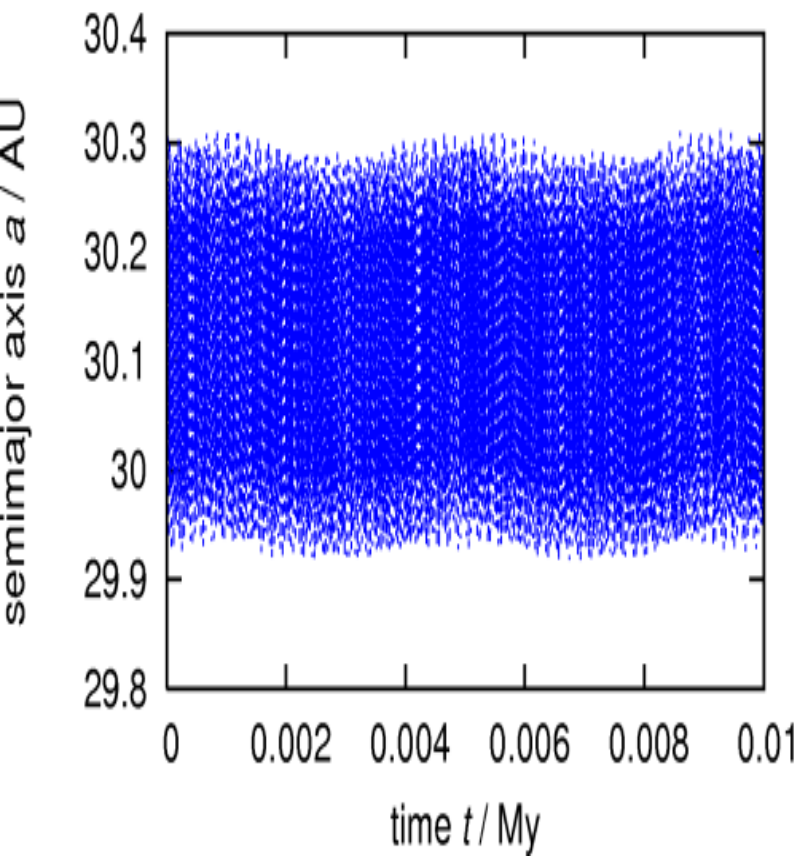
Pluto



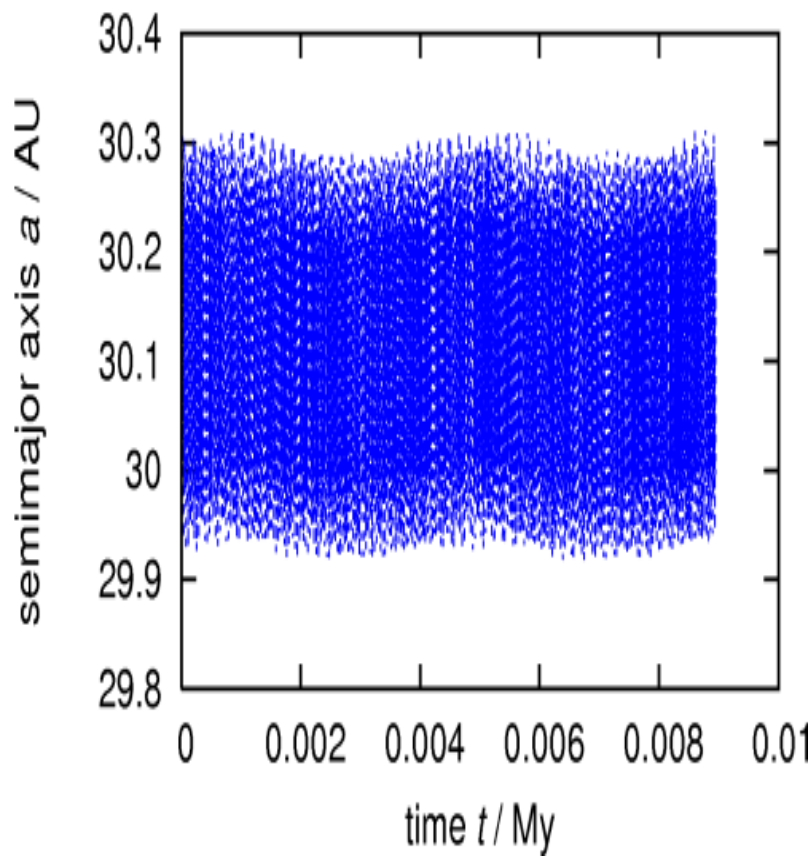
Pluto without Neptune



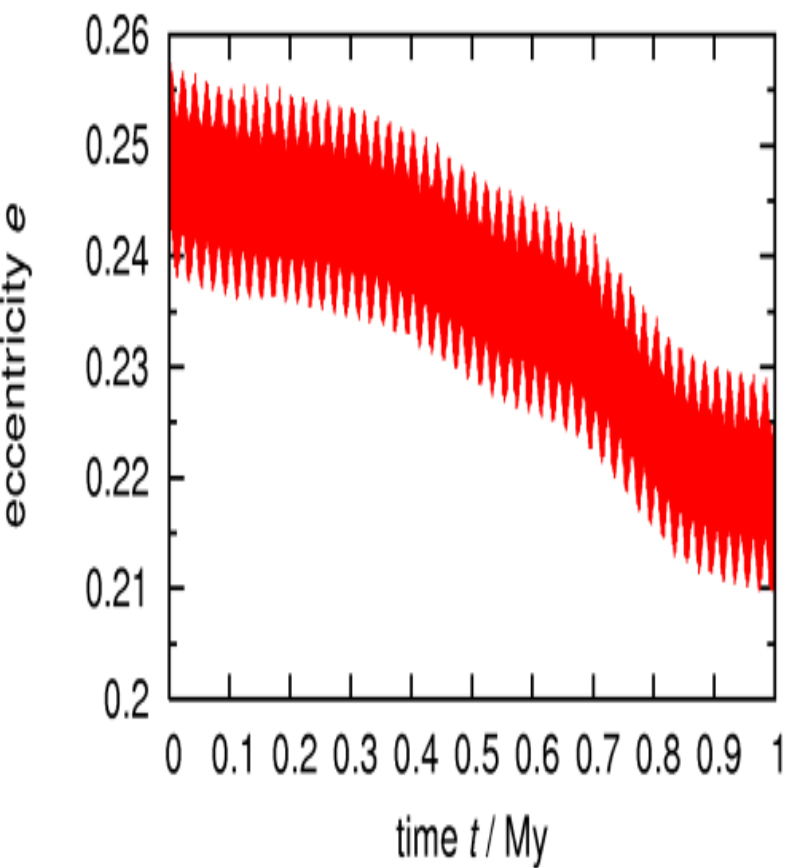
Neptune



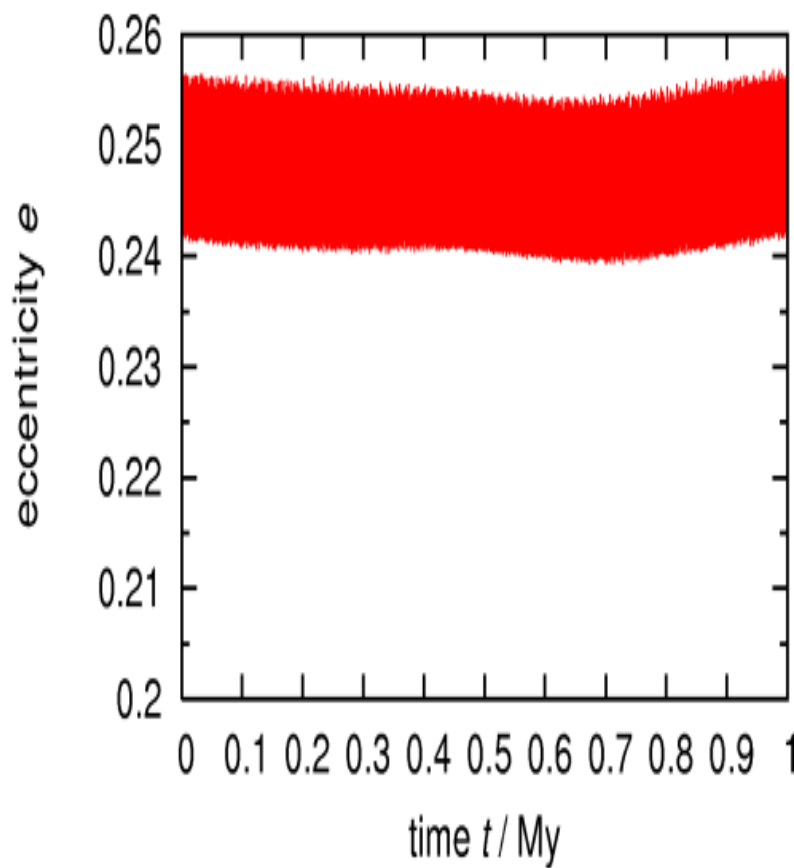
Neptune without Pluto



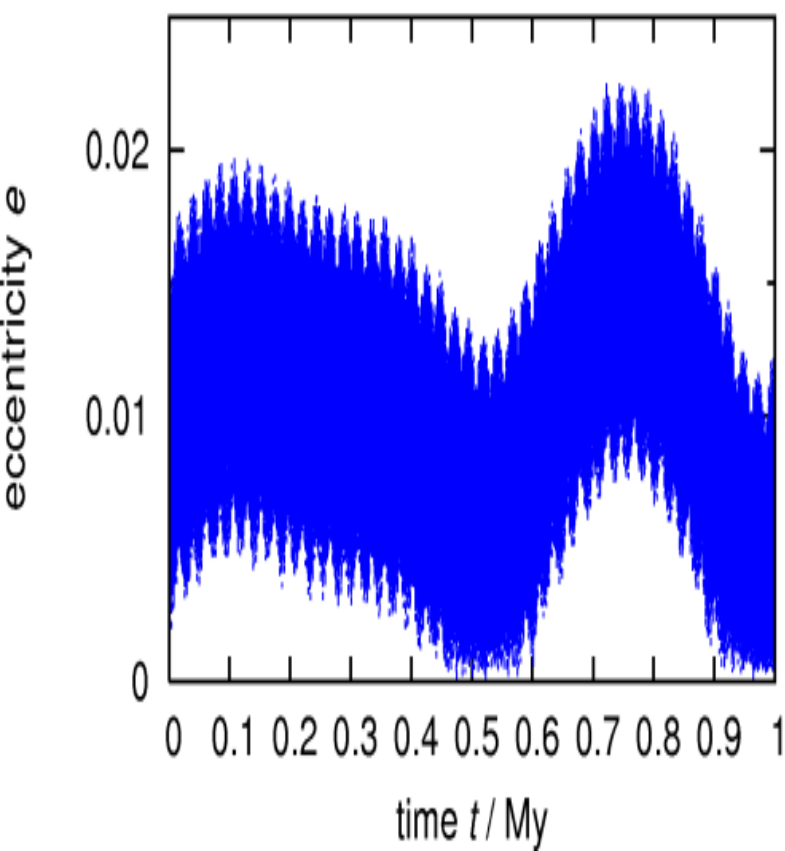
Pluto



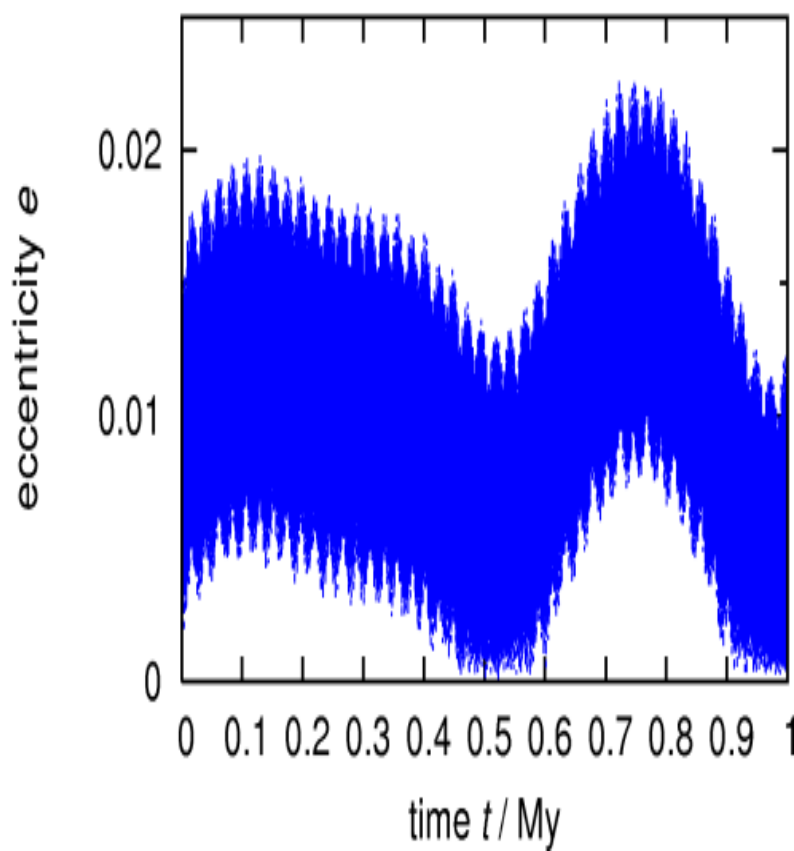
Pluto without Neptune

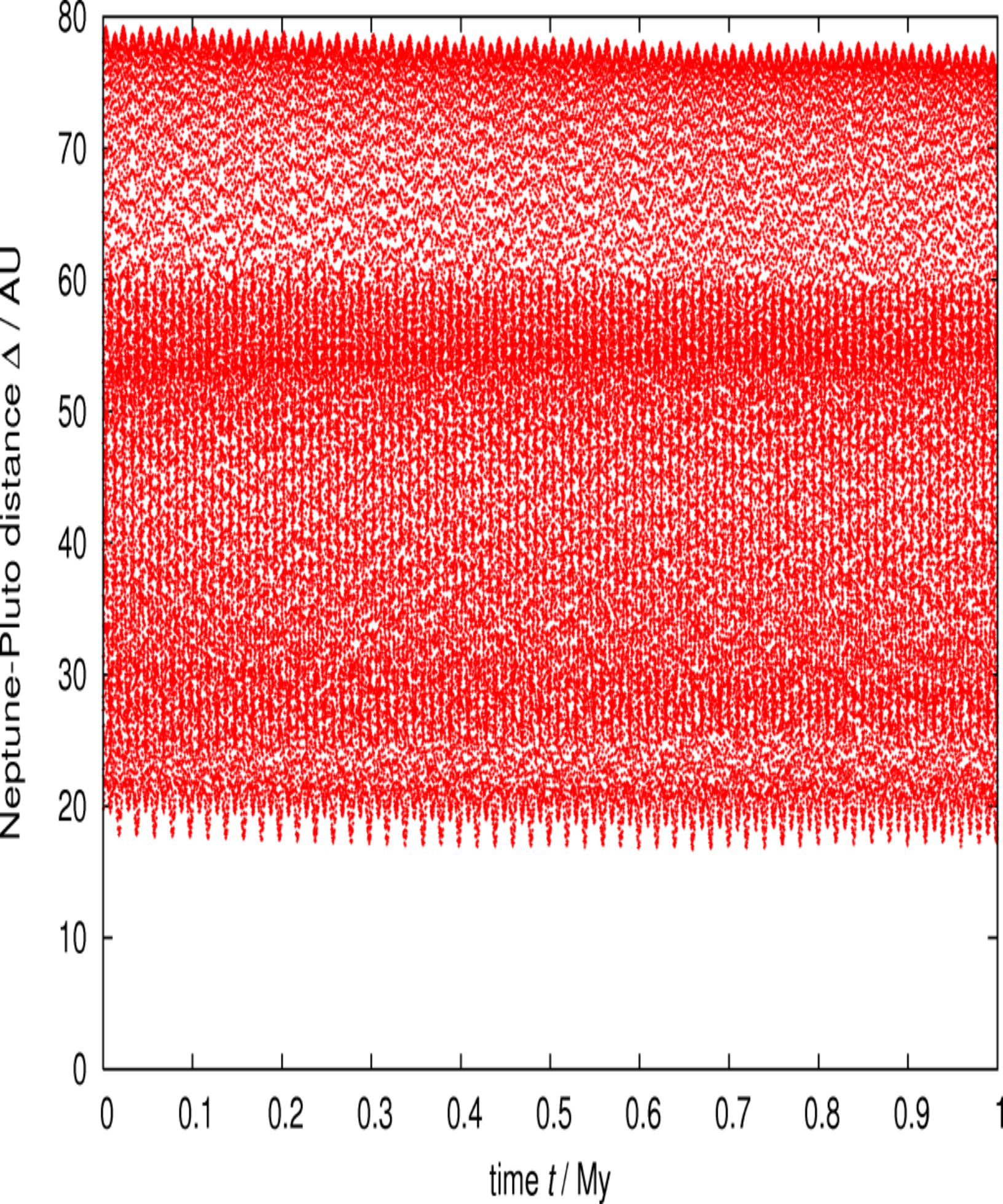


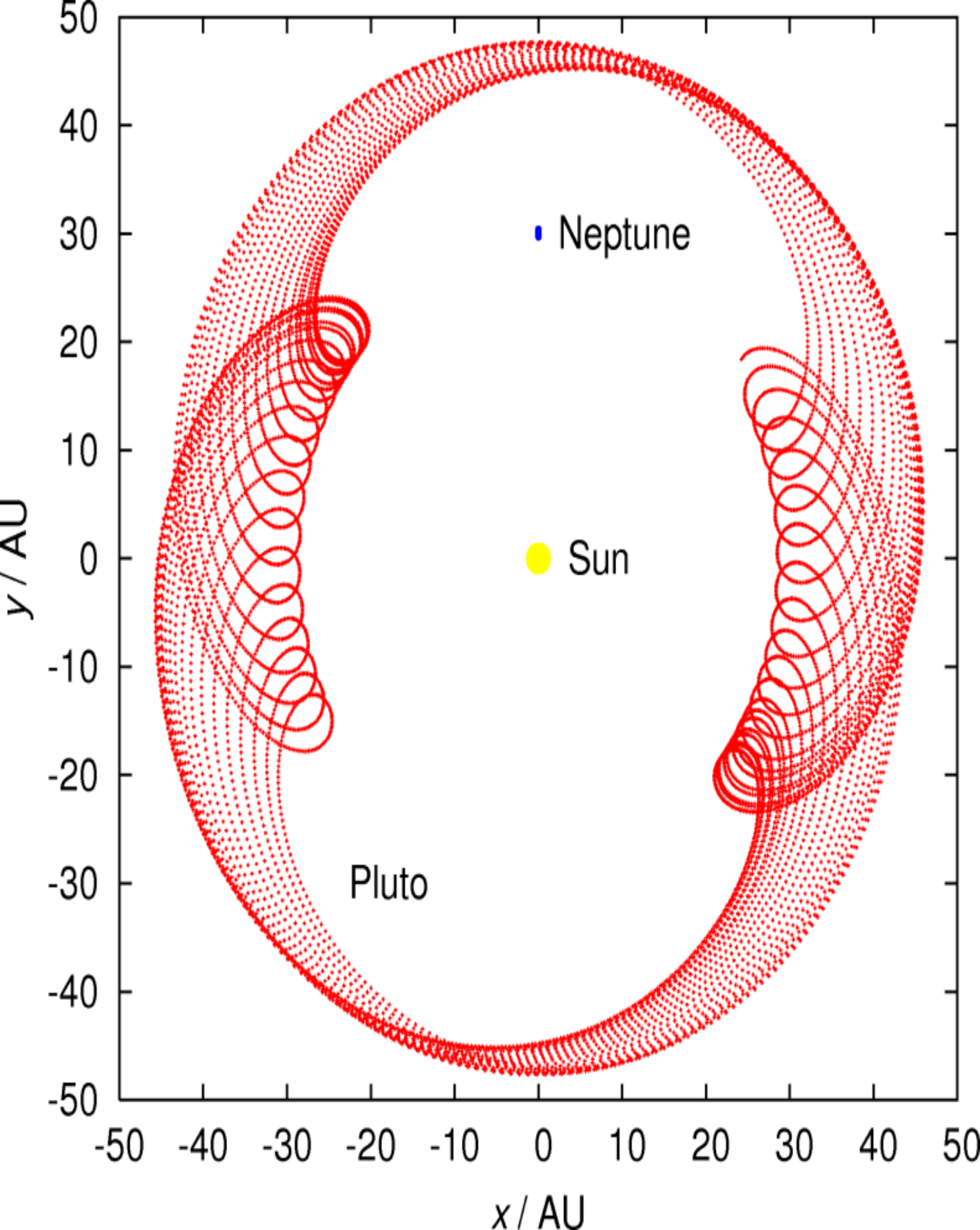
Neptune



Neptune without Pluto





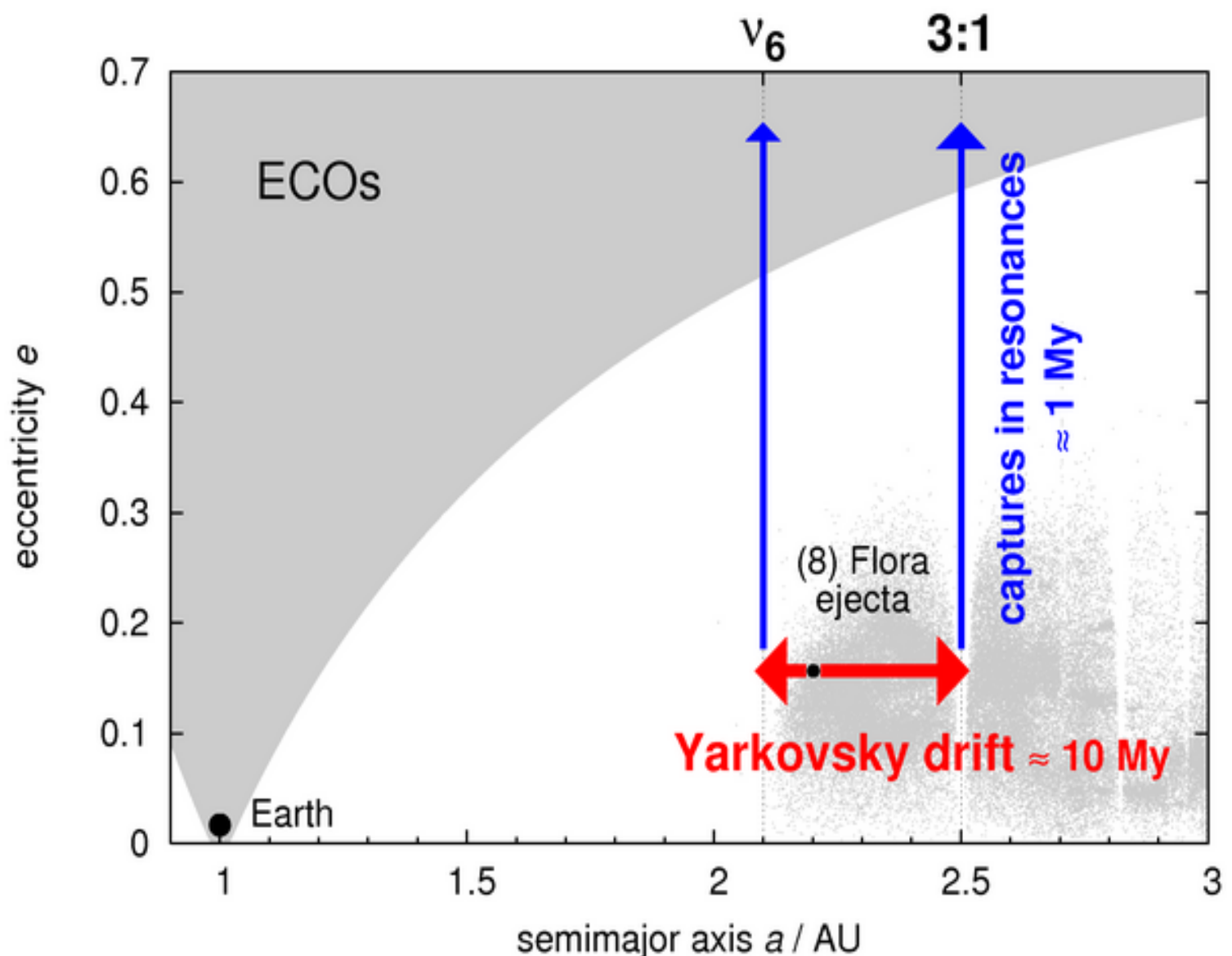


PART 2

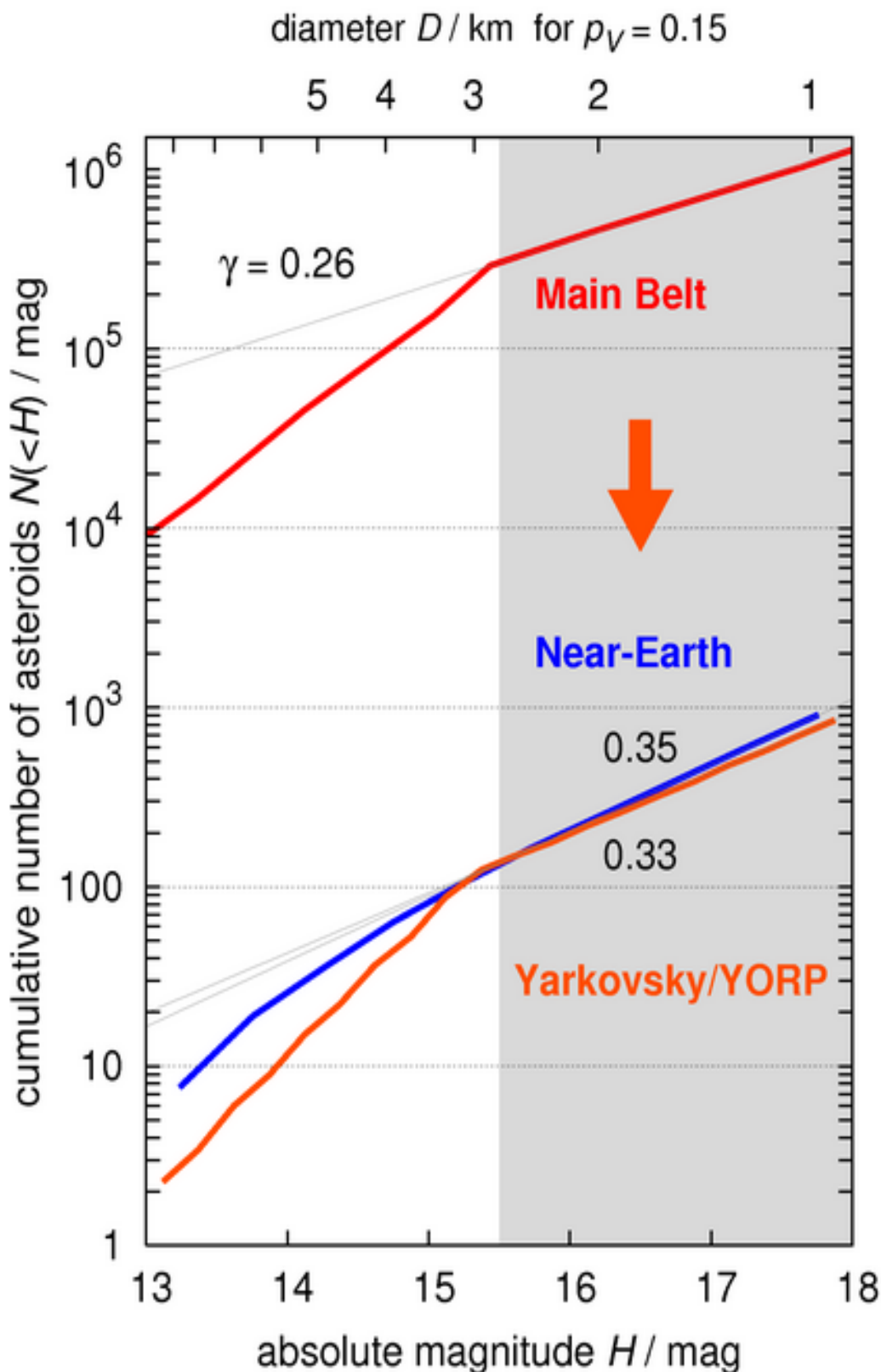
Meteorite transport from the Main Belt:

(Farinella *et al.*, 1998; Vokrouhlický & Farinella, 2000; Bottke *et al.*, 2000)

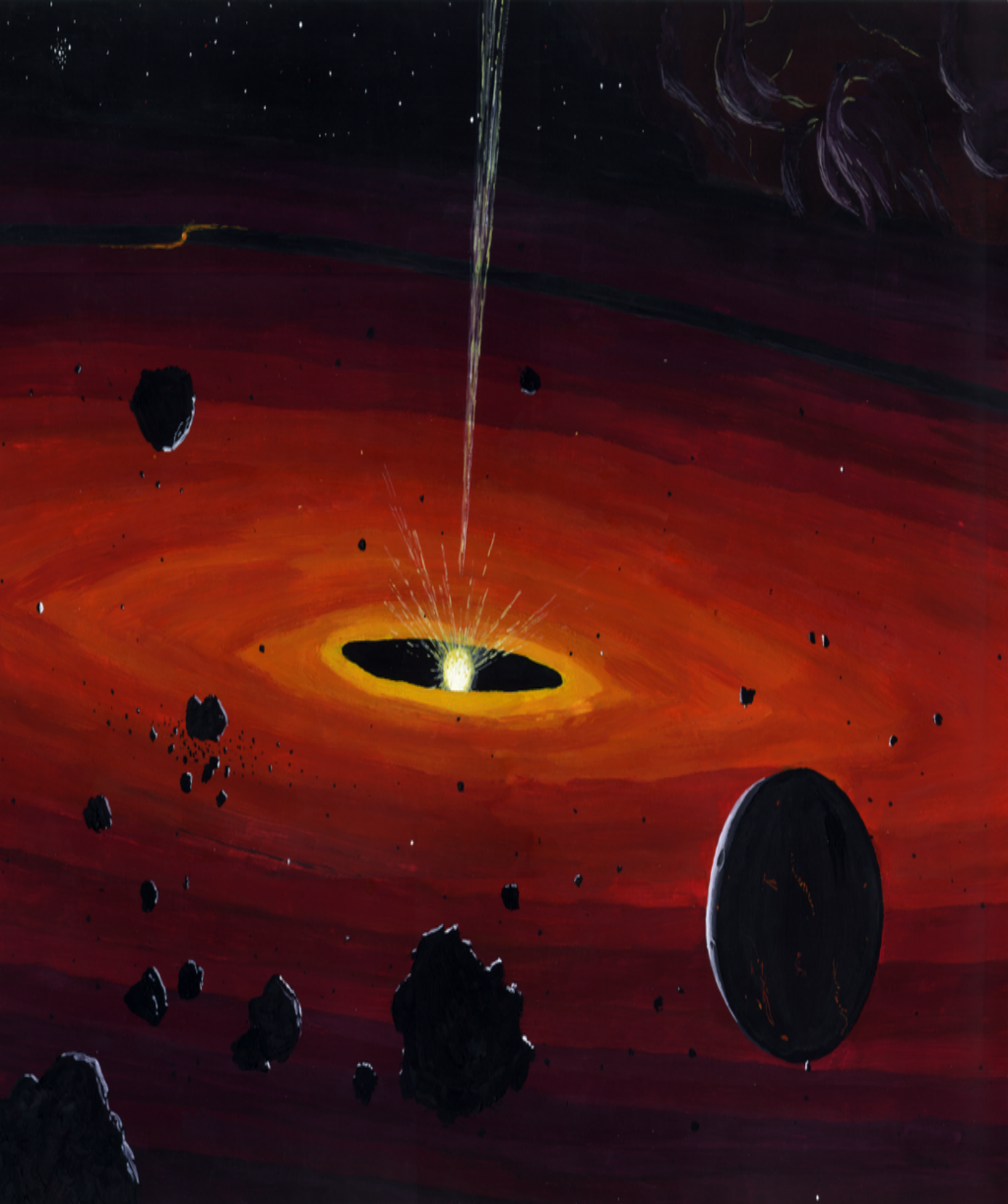
- motivation: long Cosmic Ray Exposure ages of meteorites

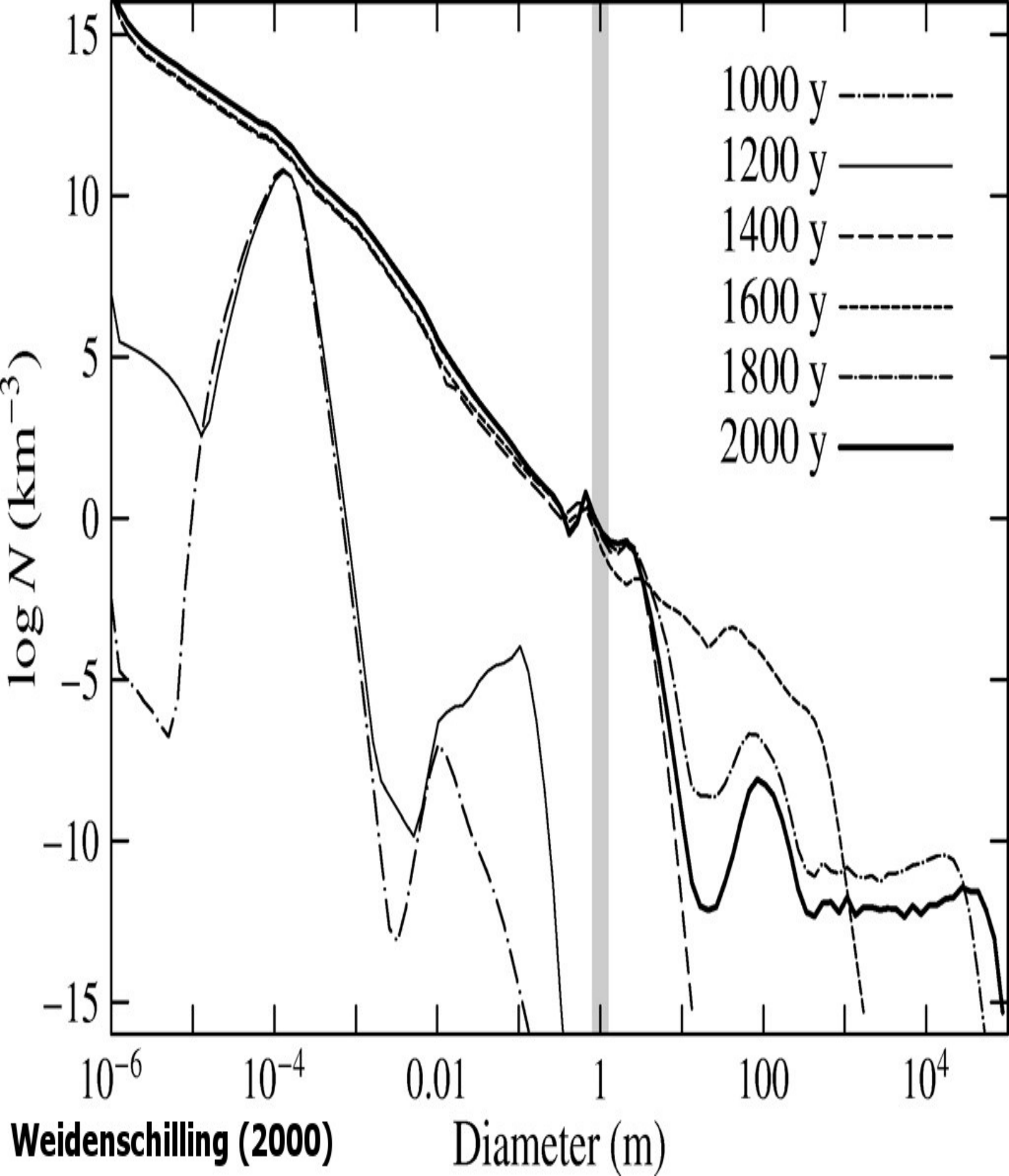


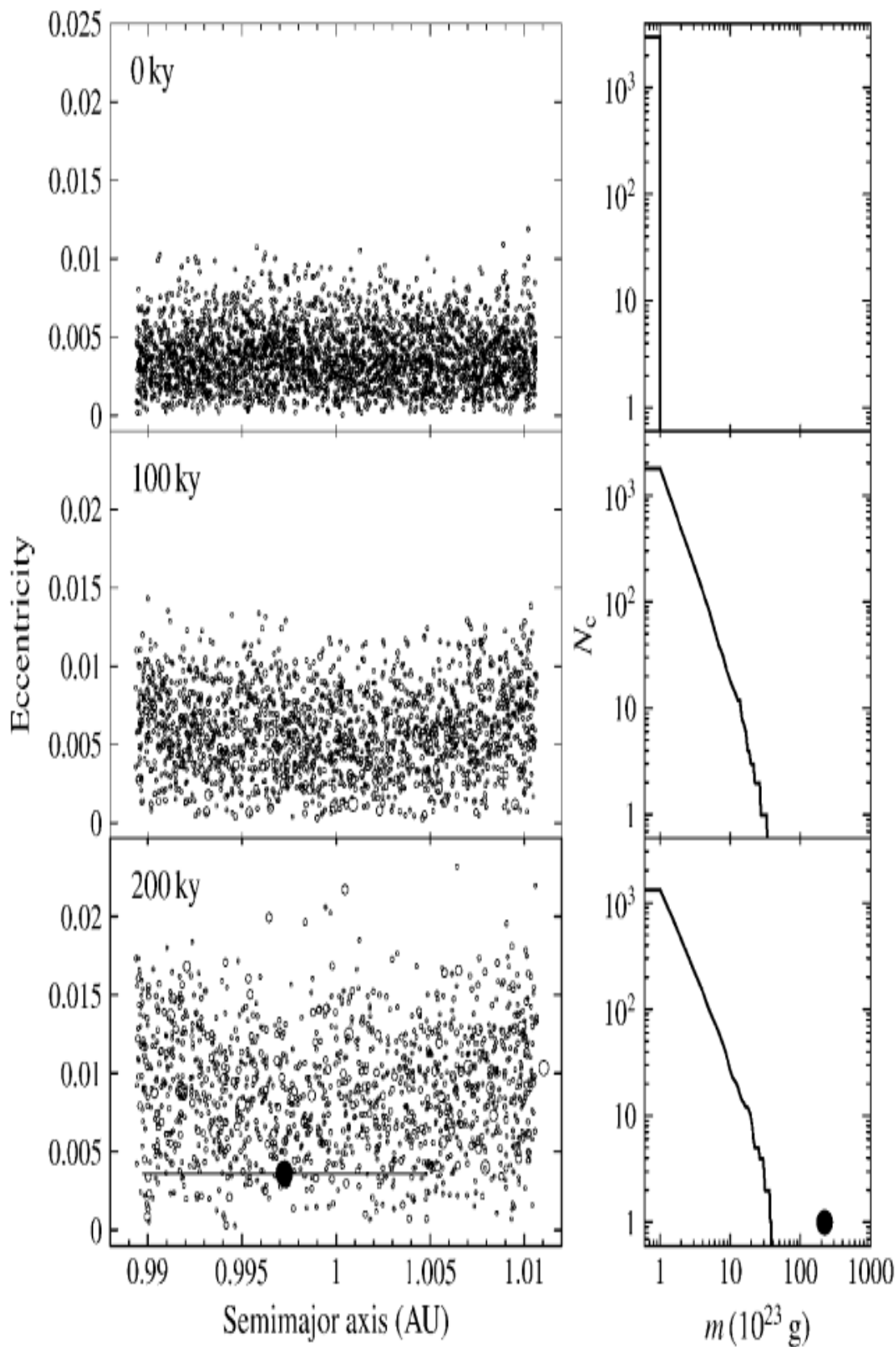
Delivery of Near-Earth Asteroids (Morbidelli & Vokrouhlický, 2003):



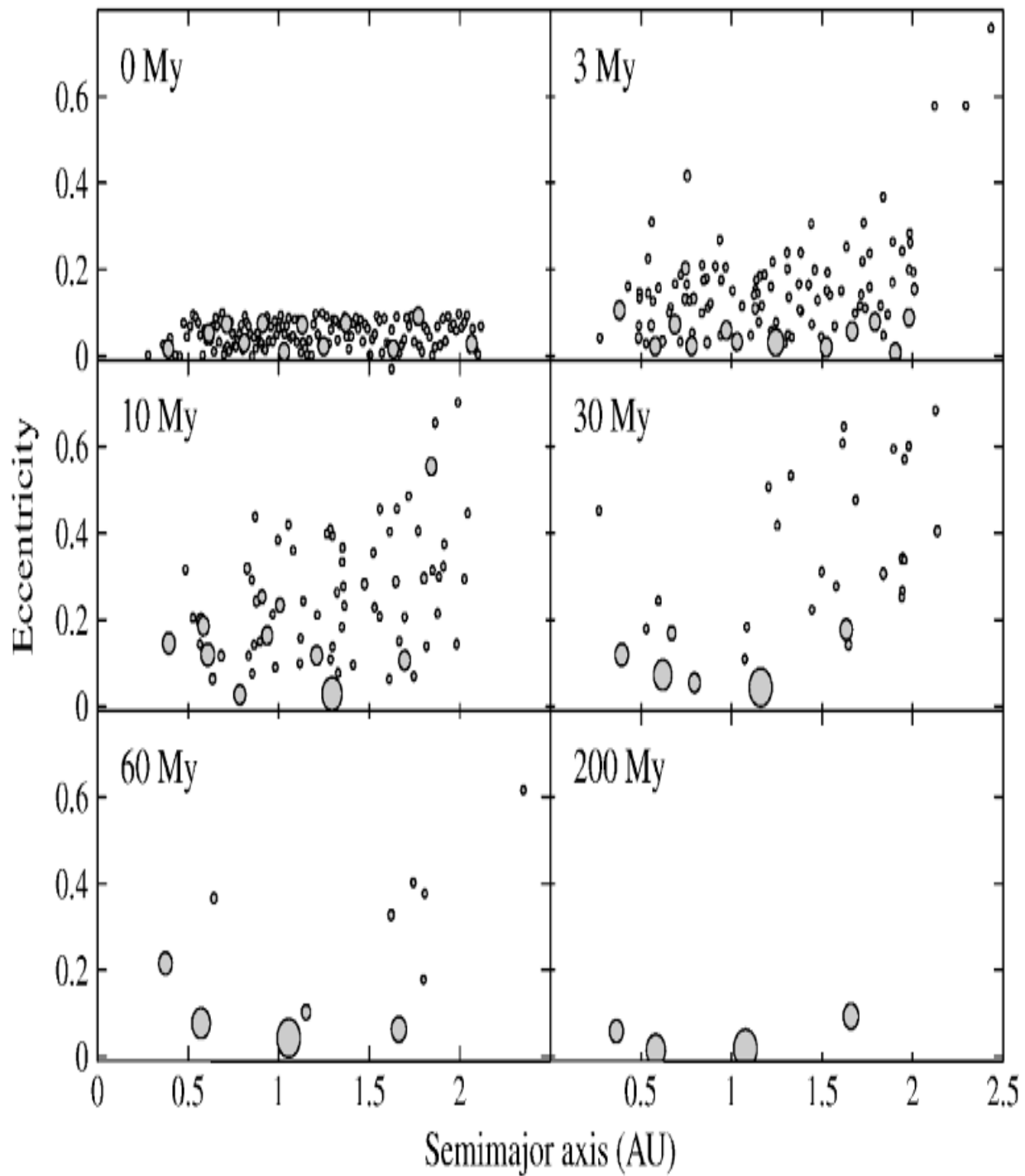
- observations of NEAs:
 1. removal rate: ~ 200 bodies (> 1 km) per My
 2. H distribution
- the same basic scenario as for meteorites:
 1. Yarko/YORP flux into the resonances: $150\text{--}200 \text{ My}^{-1}$
 2. slope change



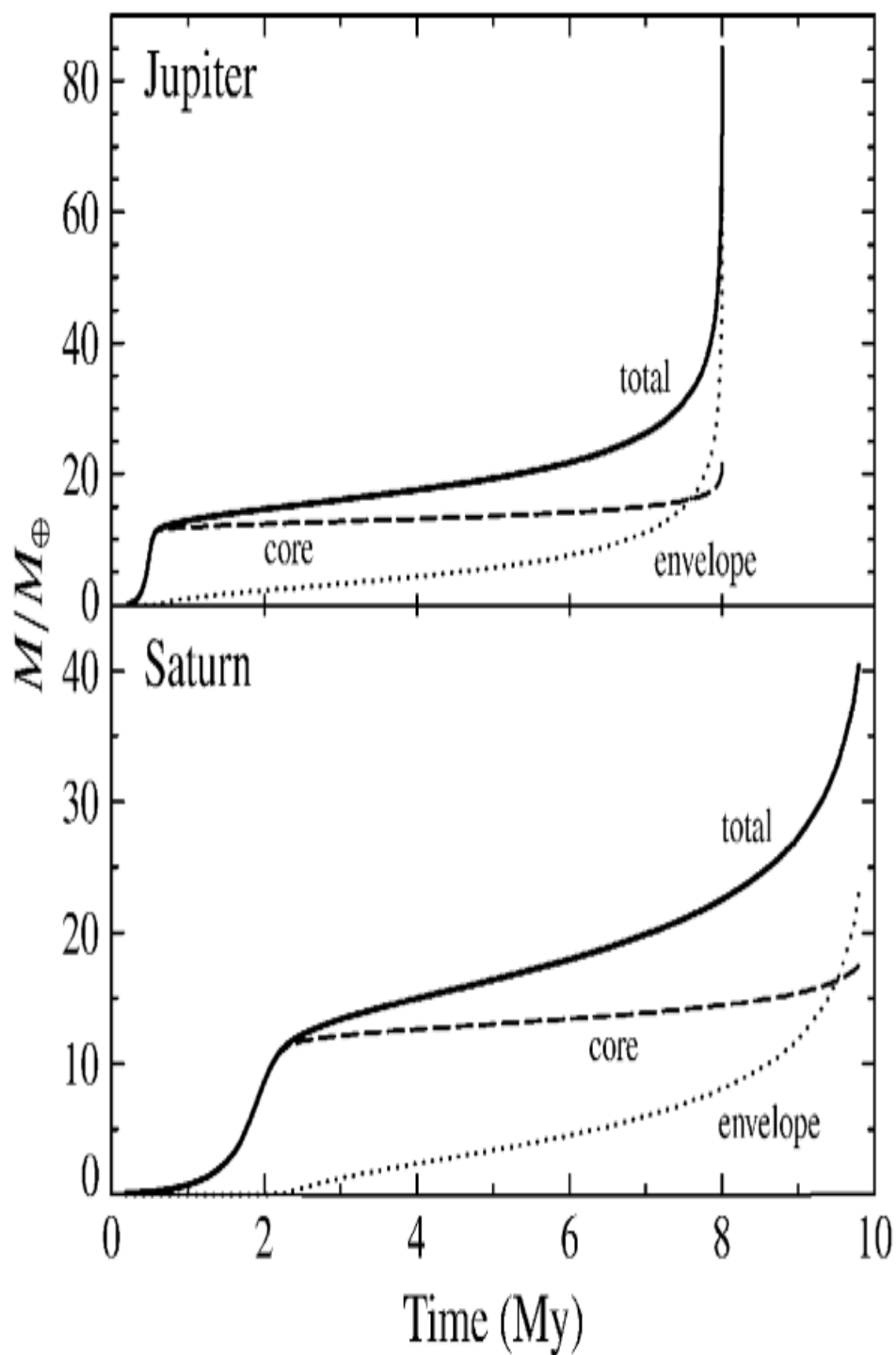




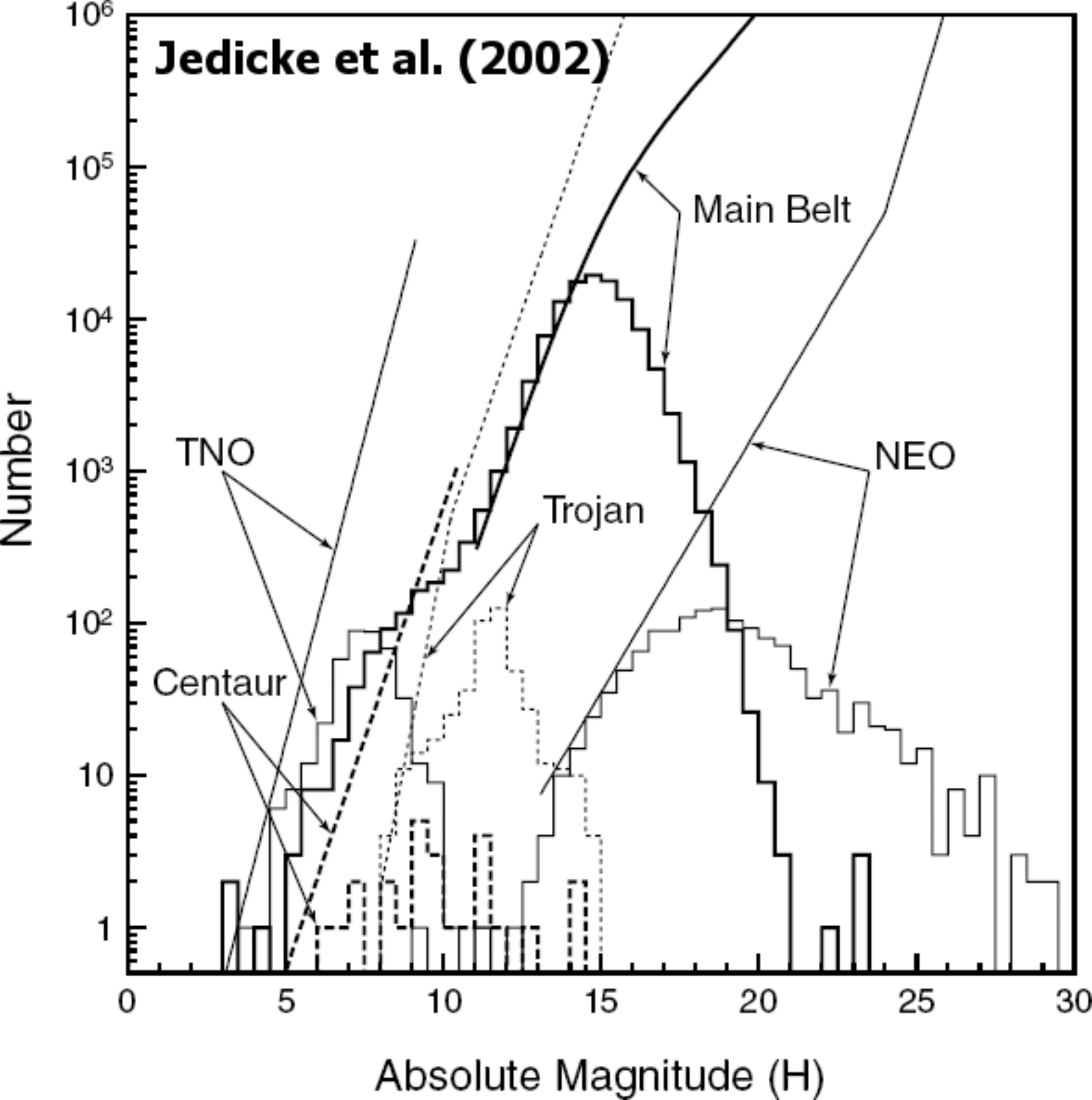
Obr. 13 — Vznik planetárního embrya z planetesimál. Vlevo závislost excentricity e dráhy planetesimál na velké poloose a , vpravo rozdělení velikostí souboru planetesimál. Časová škála vývoje je 10^6 let. Převzato z [1], Kokubo a Ida (2000).



Obr. 14 — Formování terestrických planet z planetárních embryí. Časová škála je zde asi 10^6 let.
 Převzato z [1], Chambers (2001).



Obr. 16 — Hmotnost Jupiteru a Saturnu v závislosti na čase. Odlišeno je jádro z pevných látek (čárkovaně) a plynná obálka (tečkovaně). Převzato z [1], Pollack aj. (1996).

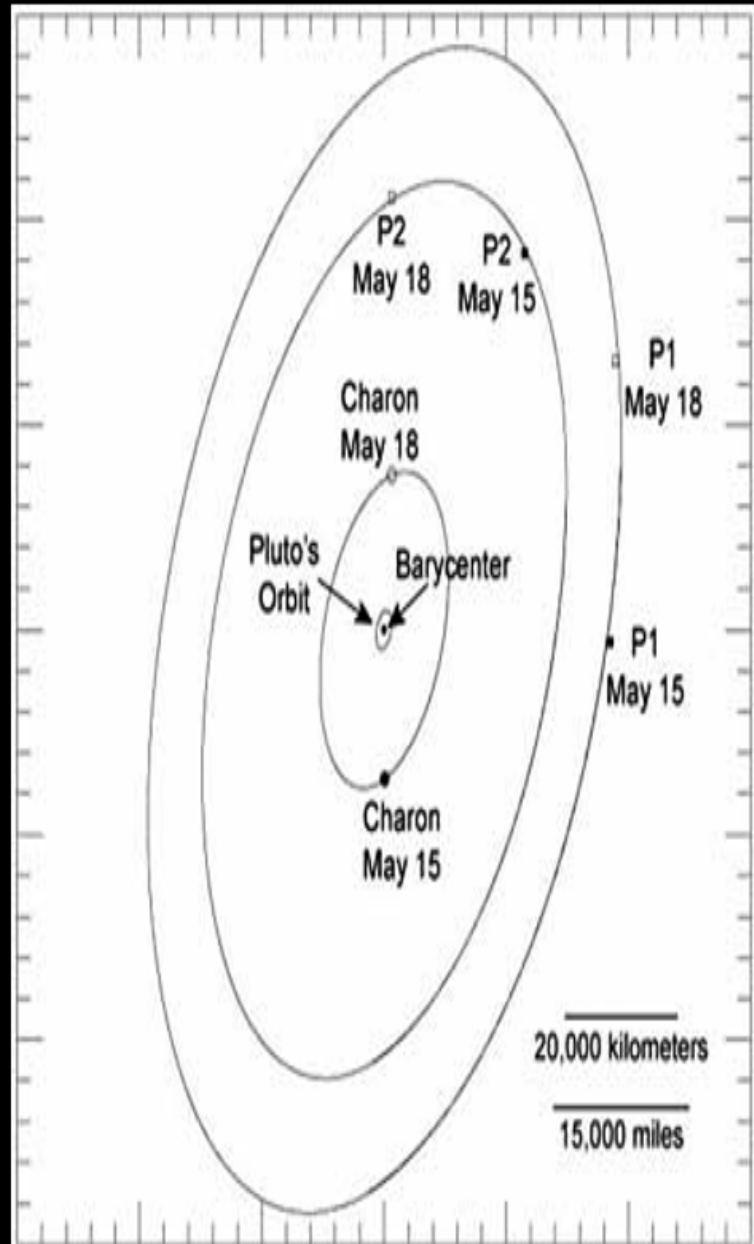


Pluto

Charon

Nix

Hydra



Weaver et al. (2005)

20:56



Asteroid

21:14



Asteroid

23:00

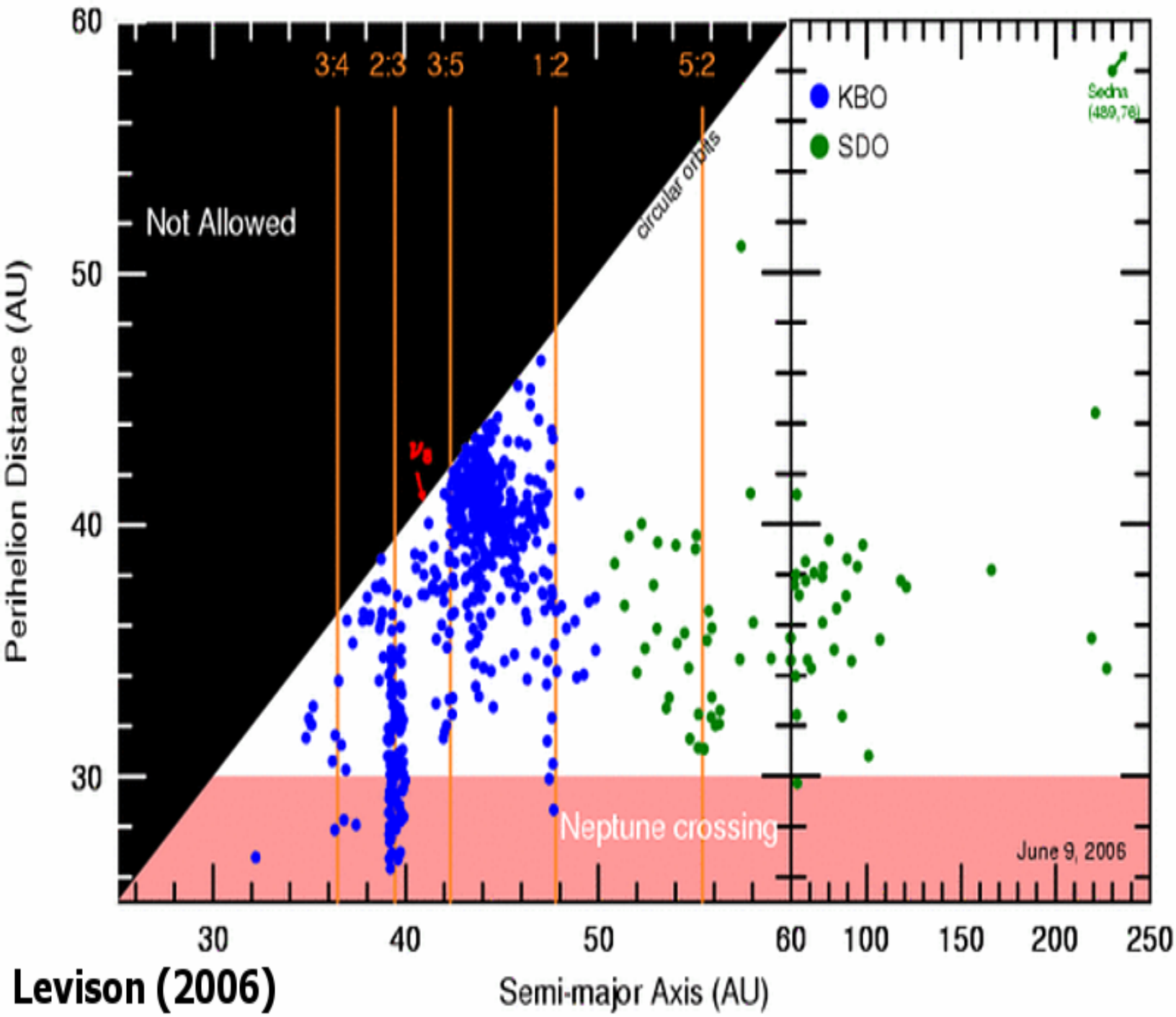


Asteroid

00:21



Jewitt & Luu (1992)



Largest known trans-Neptunian objects (TNOs)



Eris



Pluto



2005 FY₉



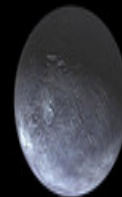
2003 EL₆₁



Sedna



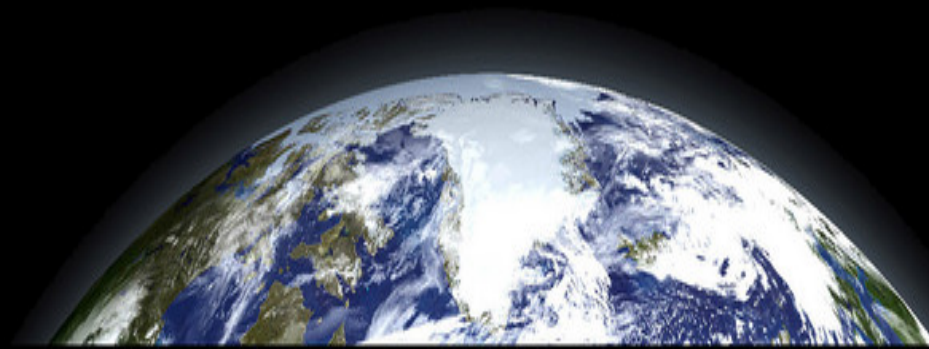
Orcus

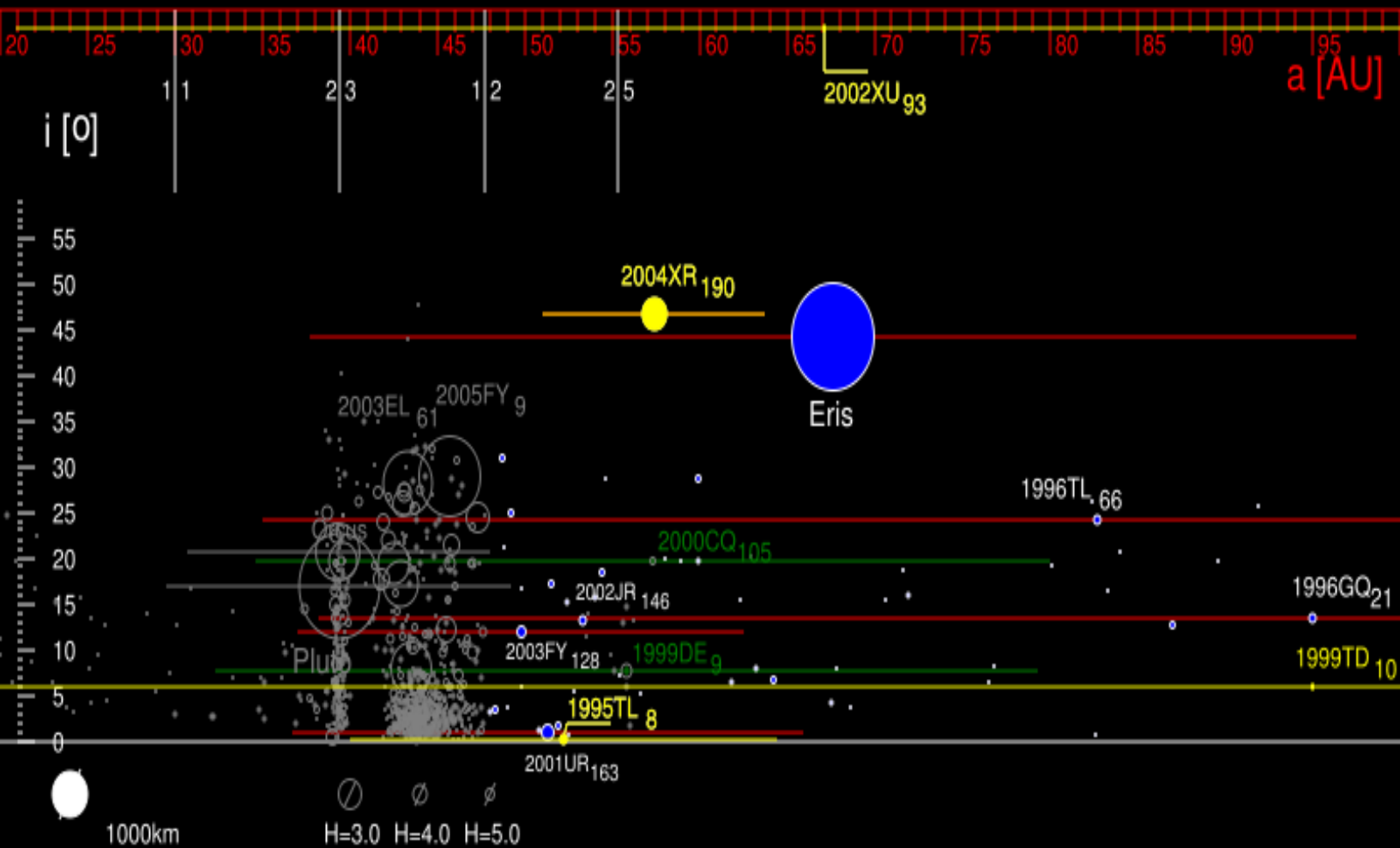


Quaoar

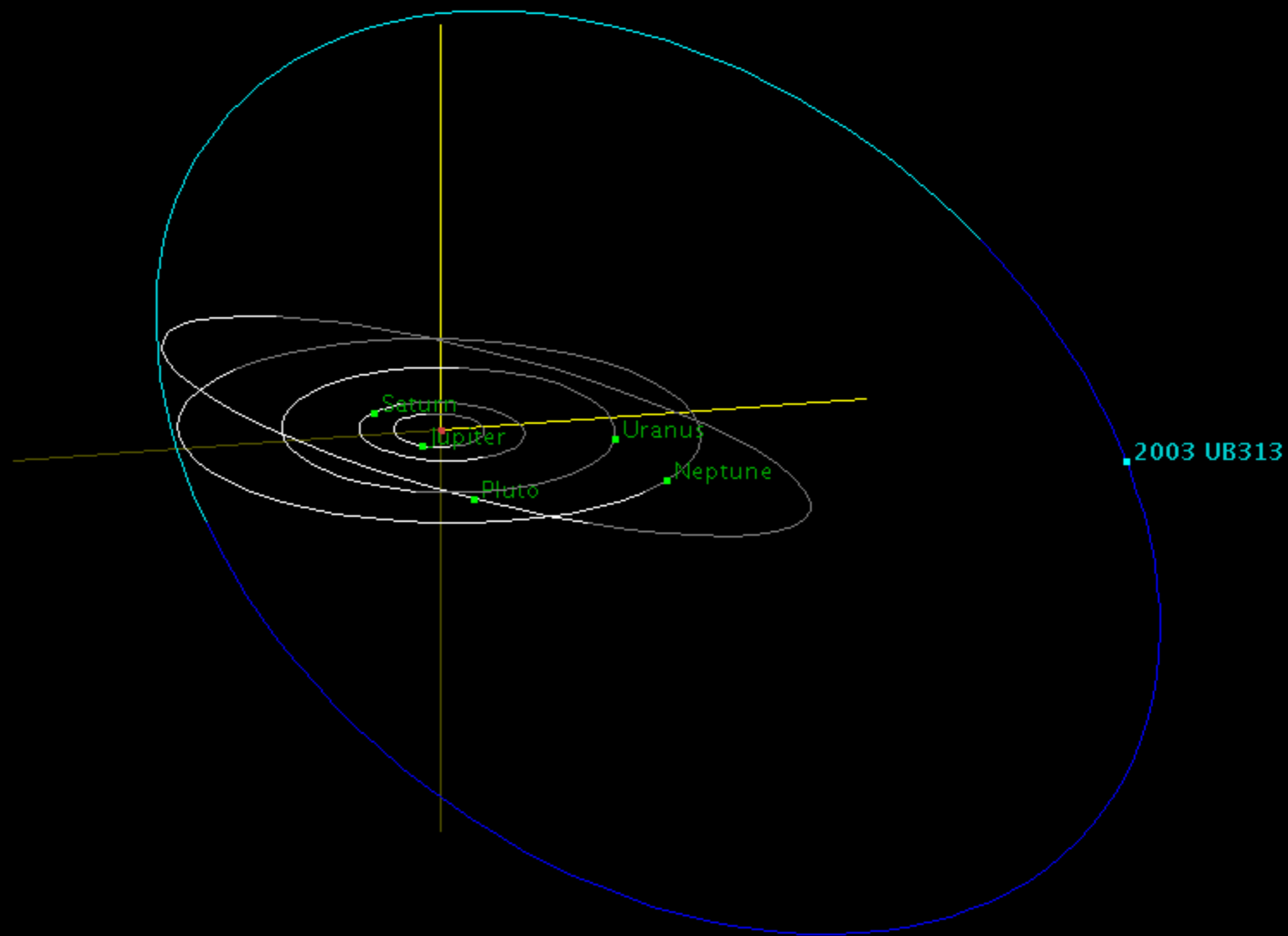


Varuna



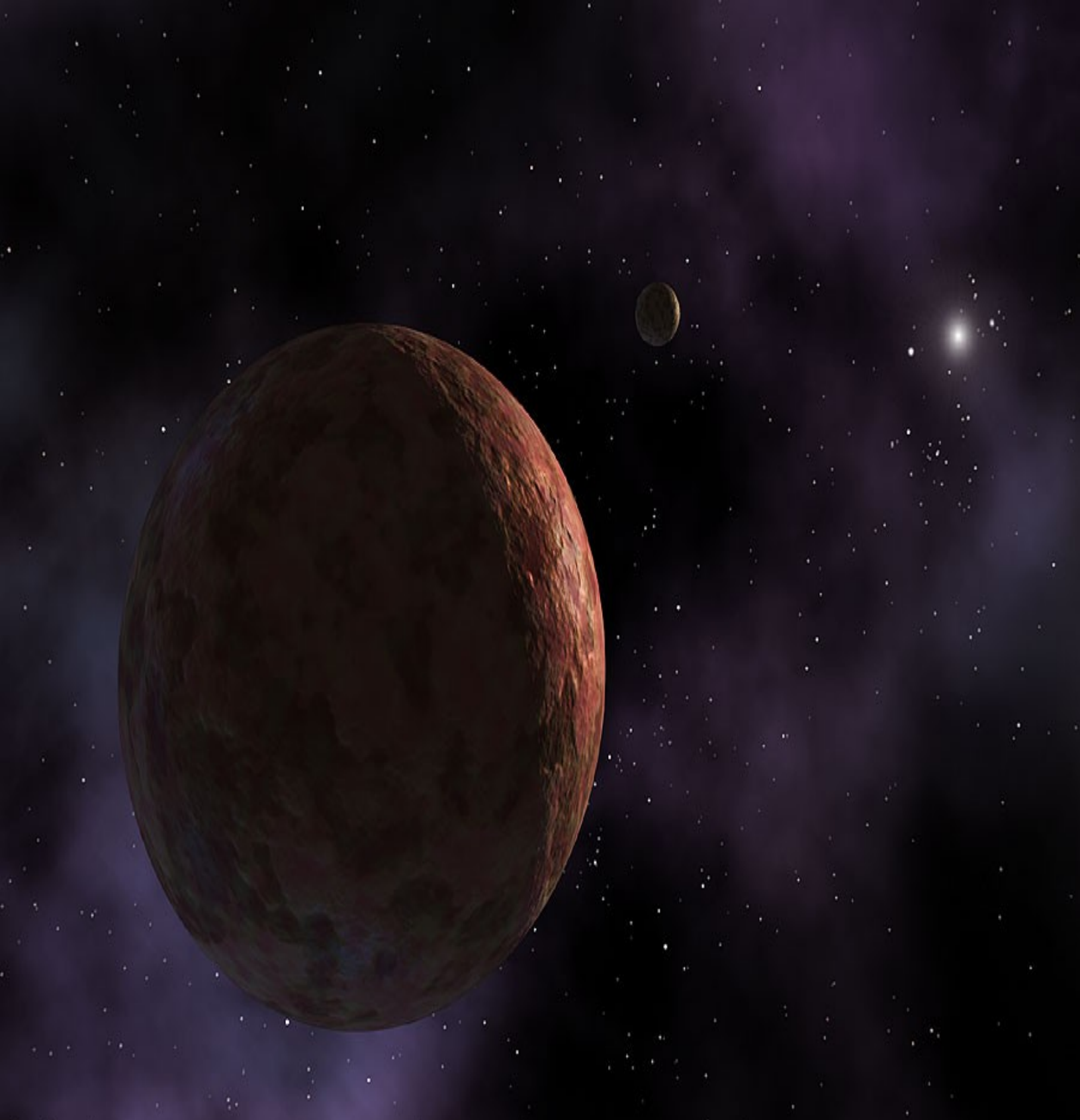


2003 UB313

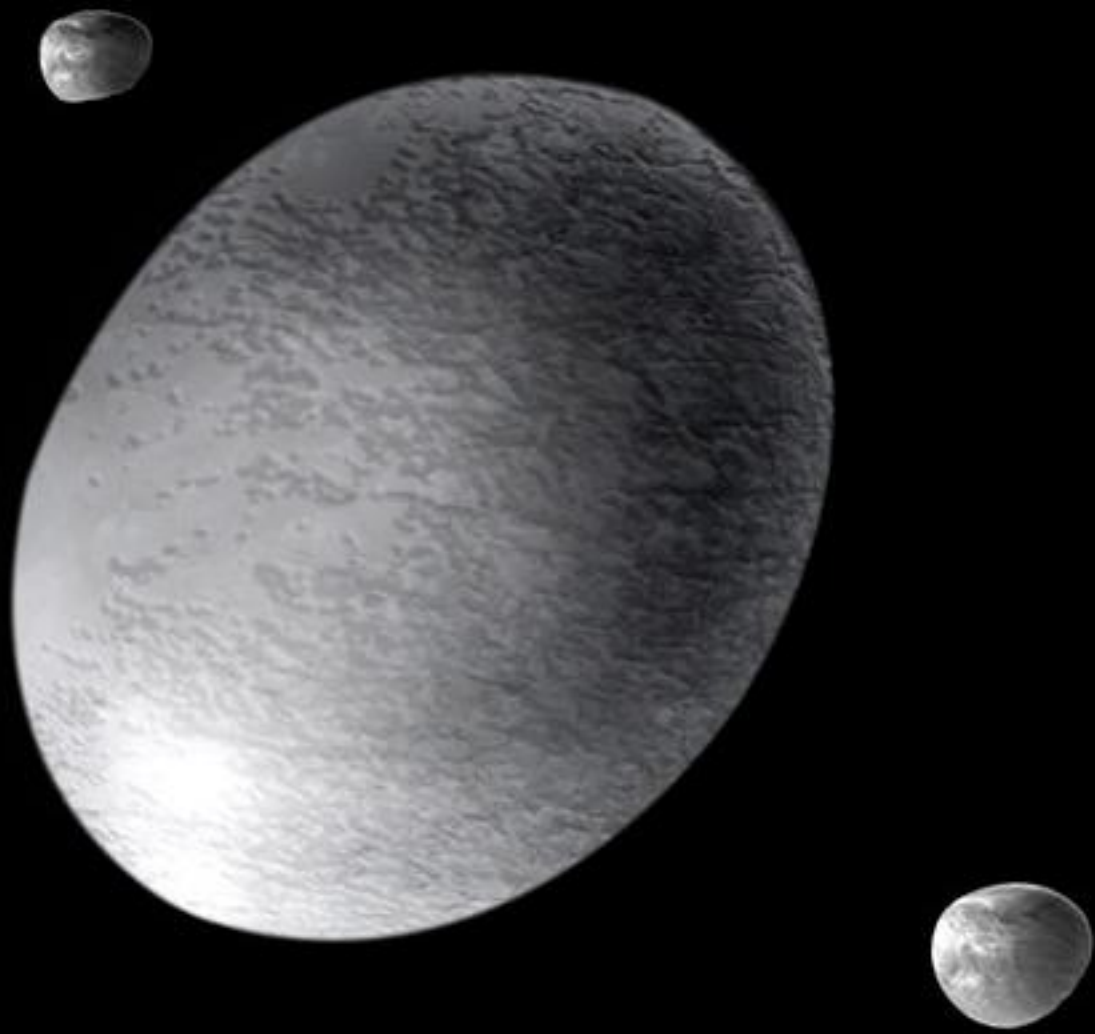


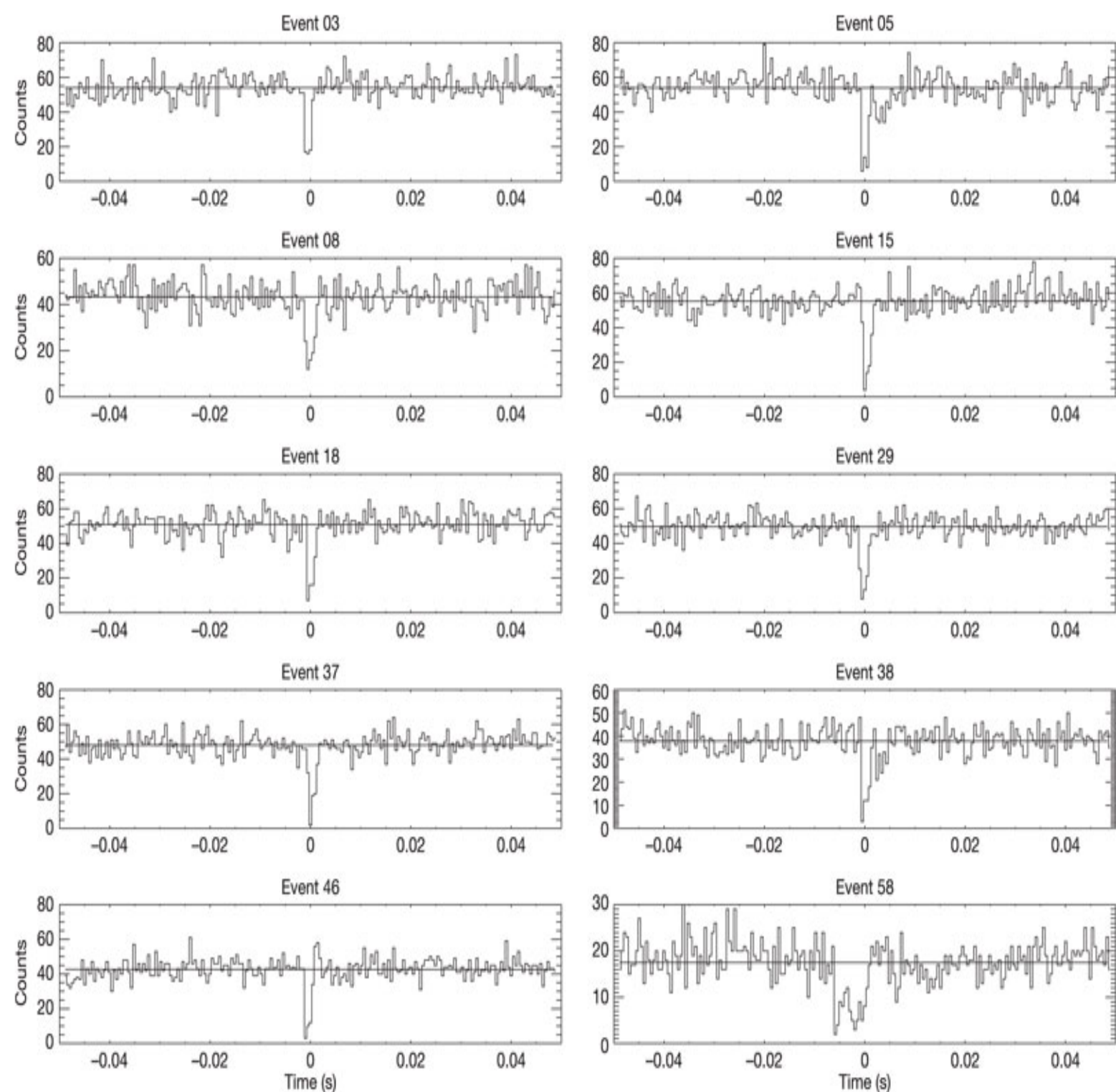
Earth Distance: 95.925 AU
Sun Distance : 96.878 AU

Oct 4, 2006

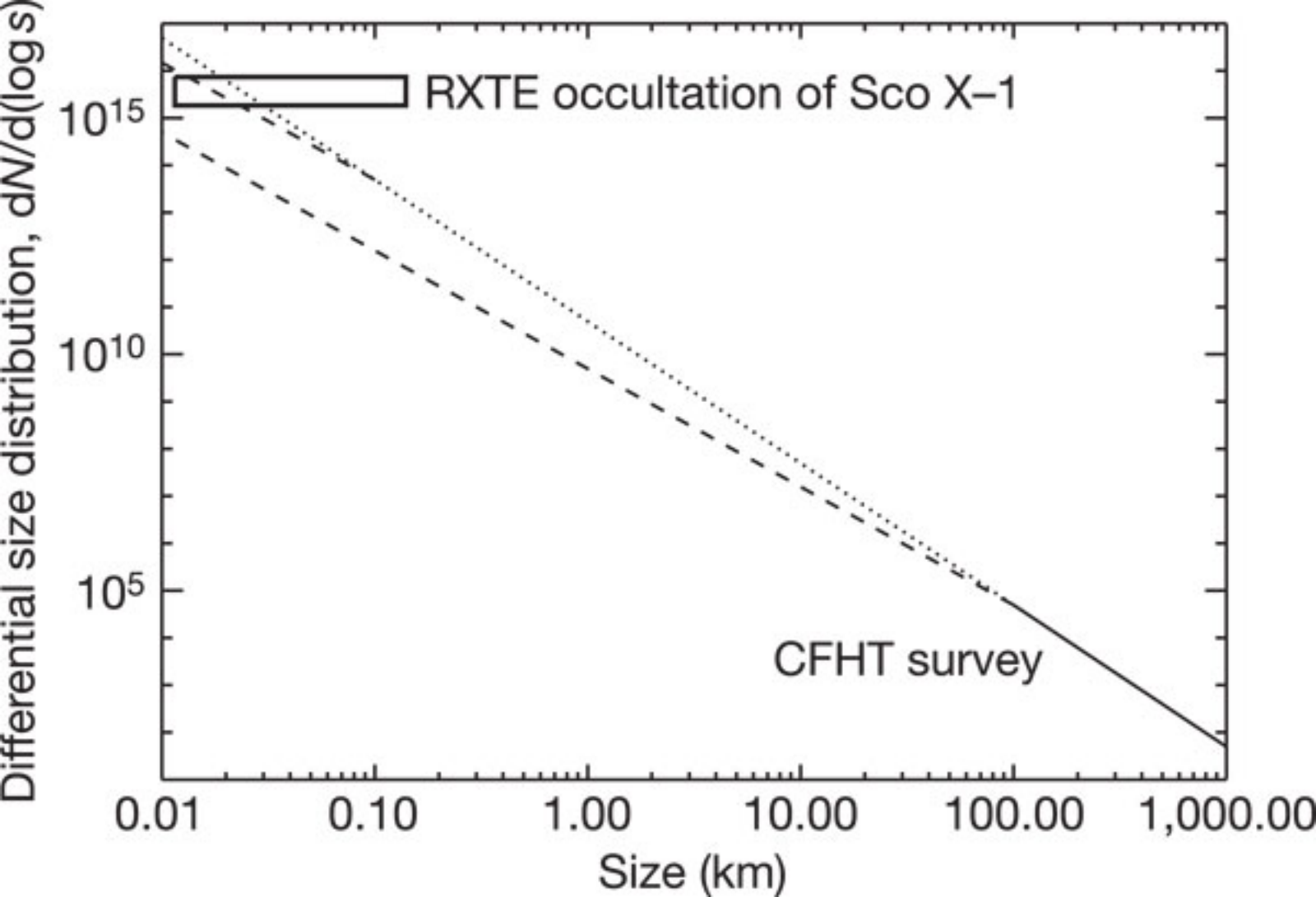


R. Hurt (SSC-Caltech), JPL-Caltech, NASA

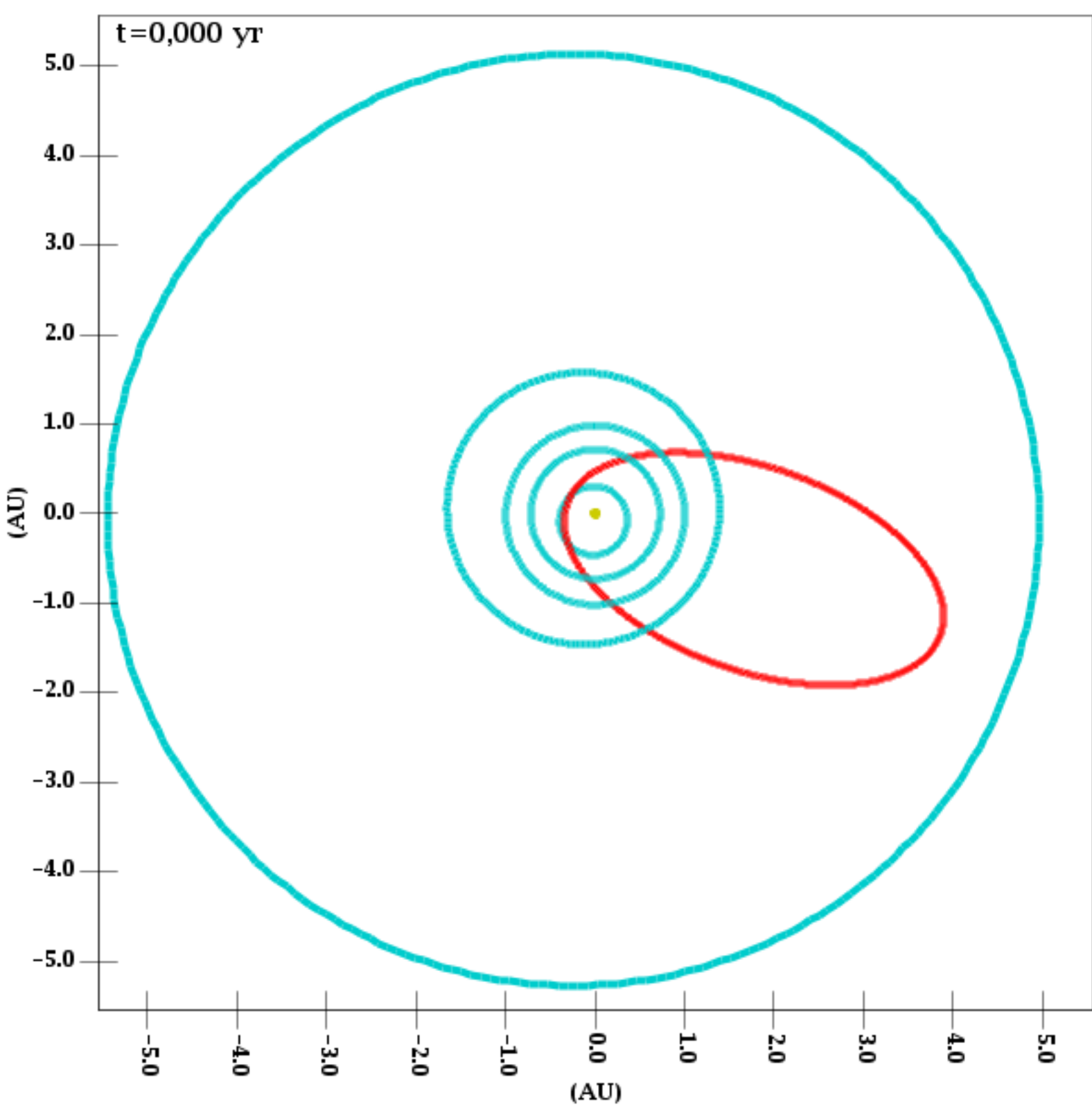




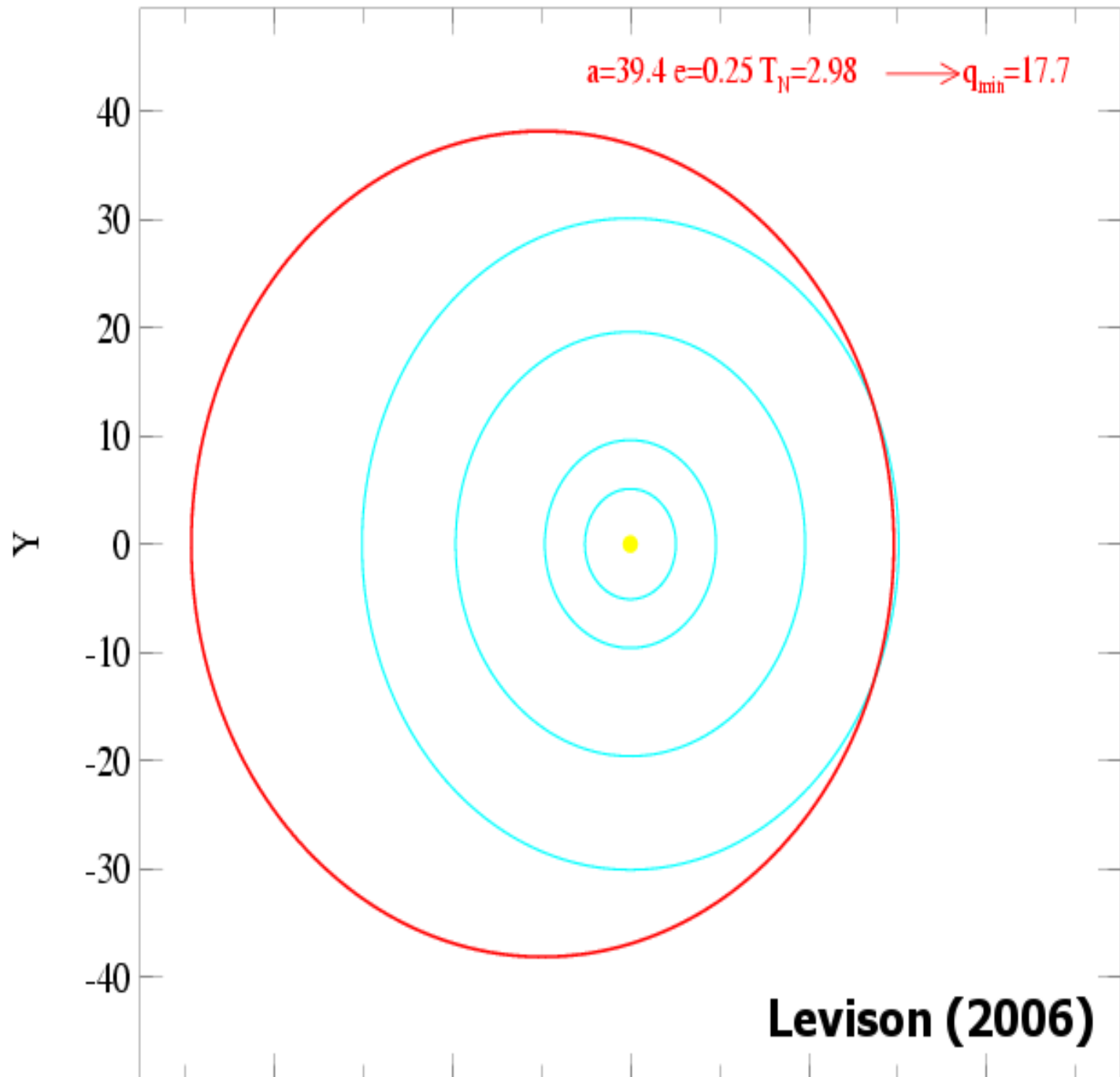
Chang et al. (2006)

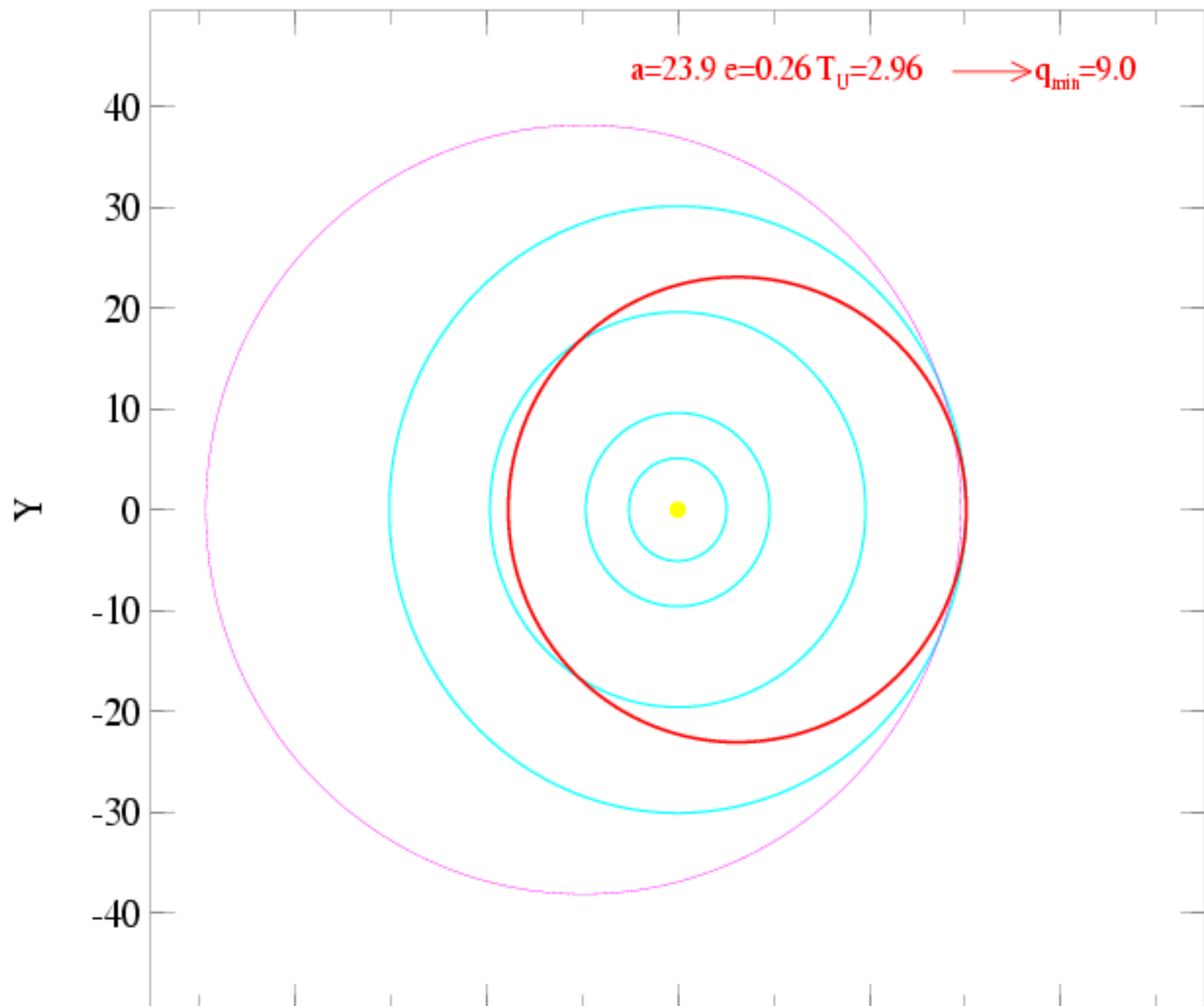


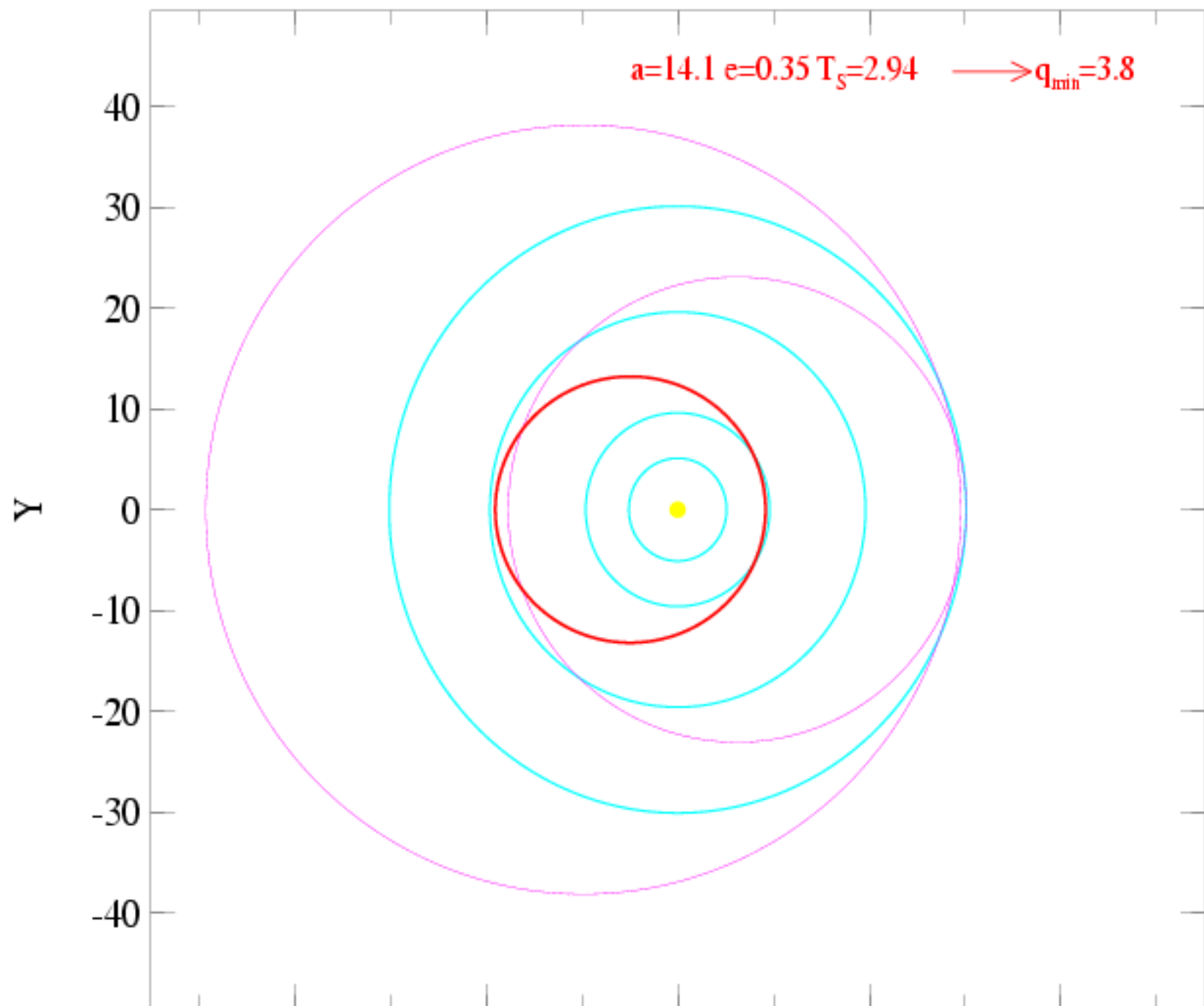


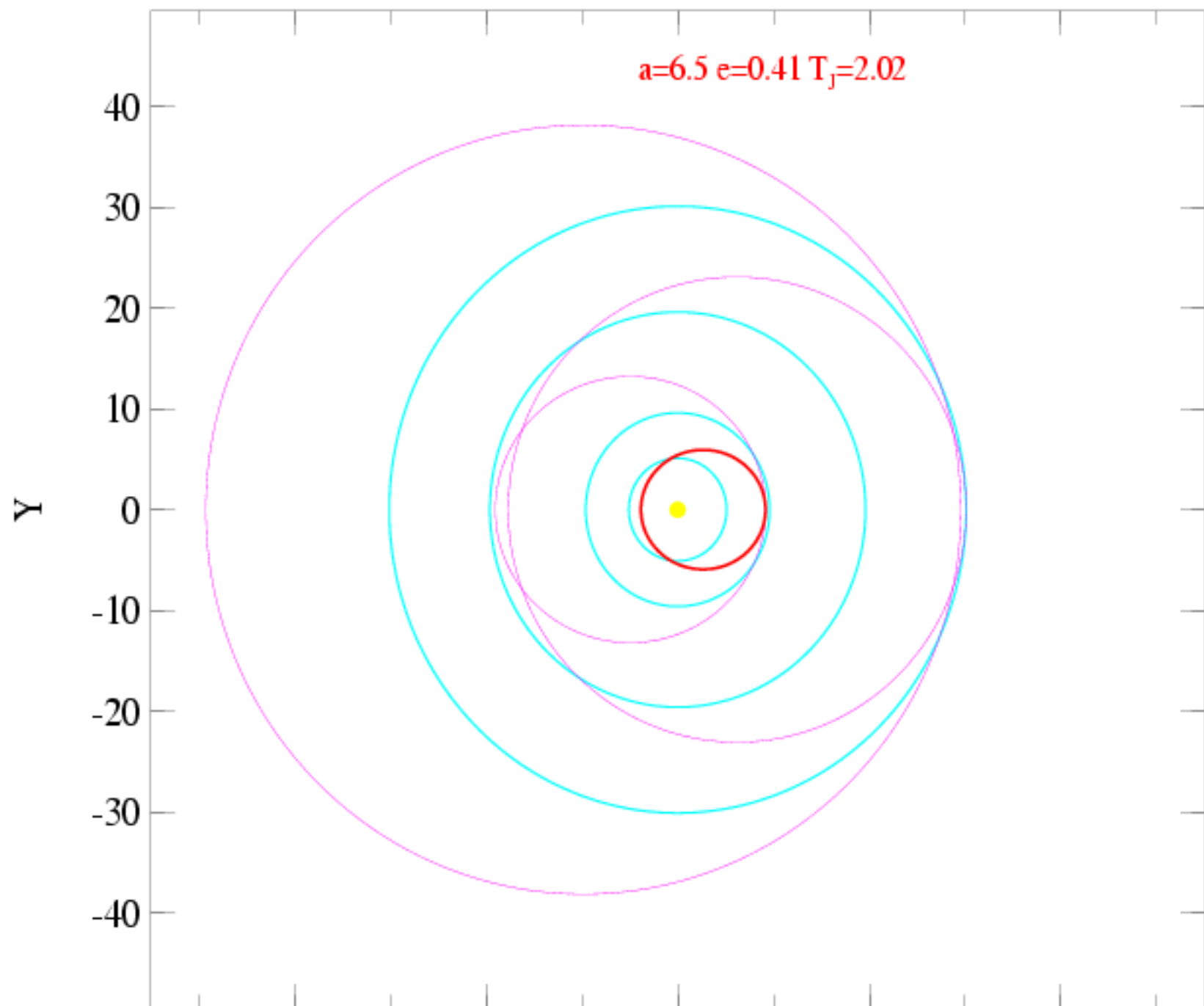




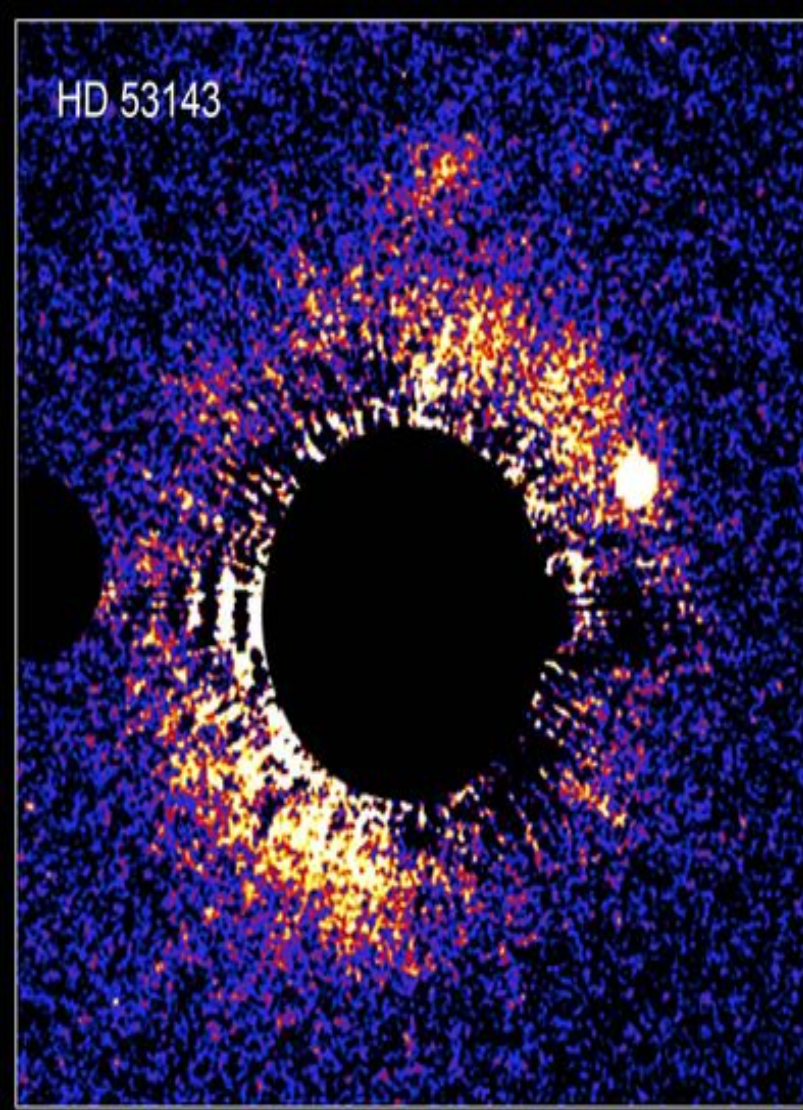








HD 53143



HD 139664

