

Metode za određivanje starosti familija asteroida

Bojan Novaković

Astronomska Opservatorija Beograd



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DOWNS

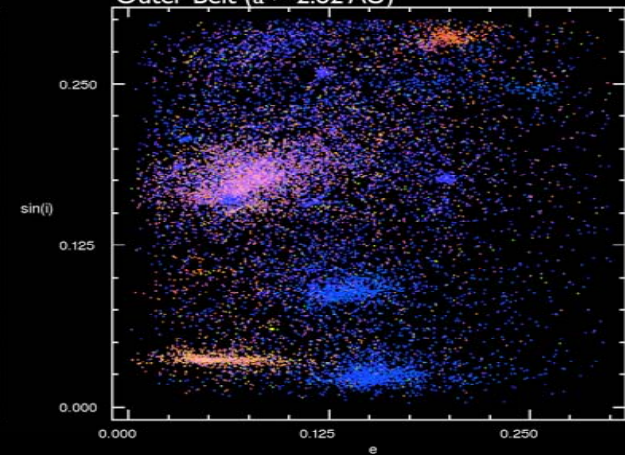
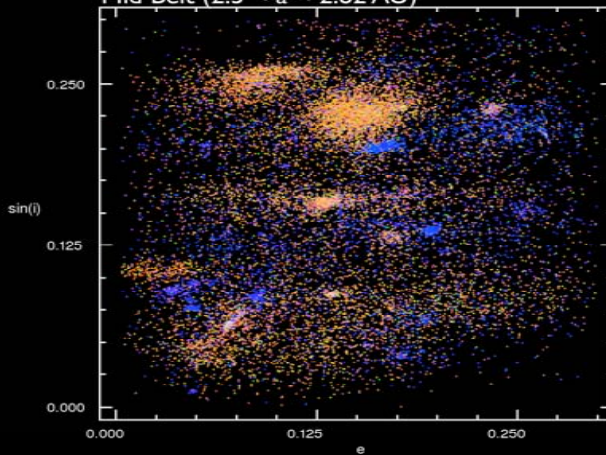
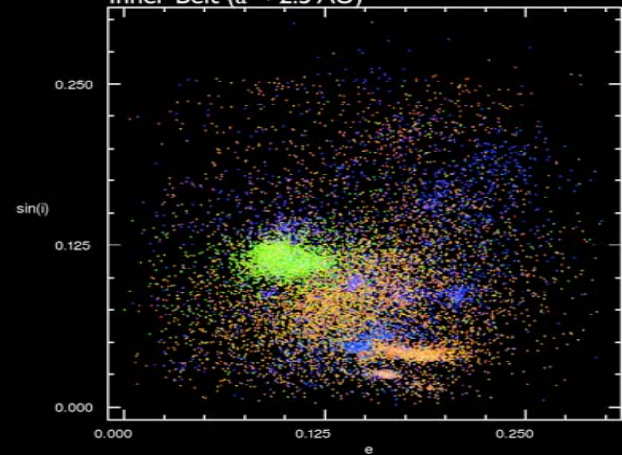
- Produkti sudara u Sunčevom sistemu
- Identifikacija u prostoru sopstvenih elemenata
- Nekoliko desetina do sada poznatih familija
- Značaj familija:
 - 1/3 objekata pripada familijama
 - informacije o mineralnom sastava
 - rekonstrukcija istorije sudara u asteroidnom prstenu
 - izučavanje disruptivnih procesa

SDSS MOC 4 Asteroid Belt Populations

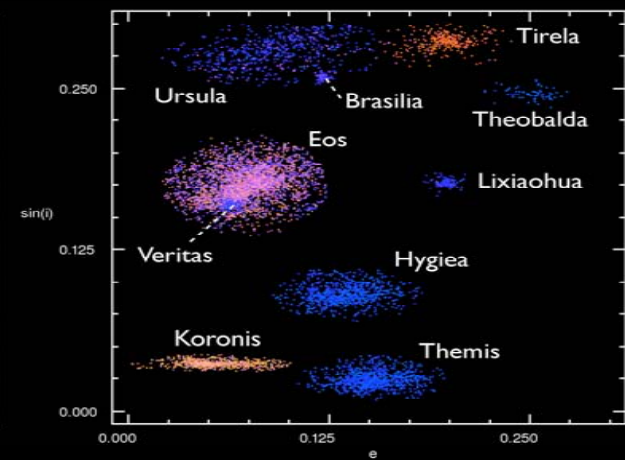
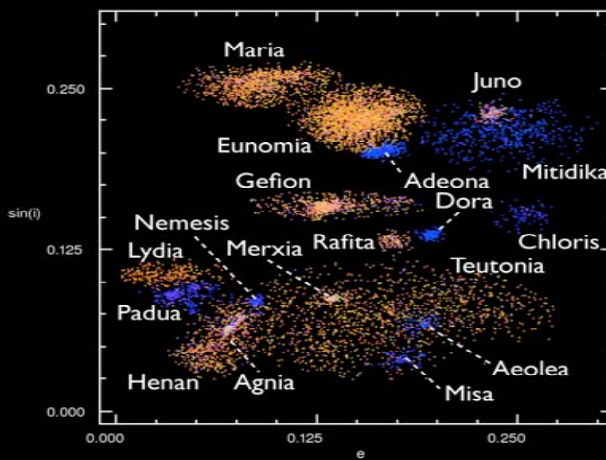
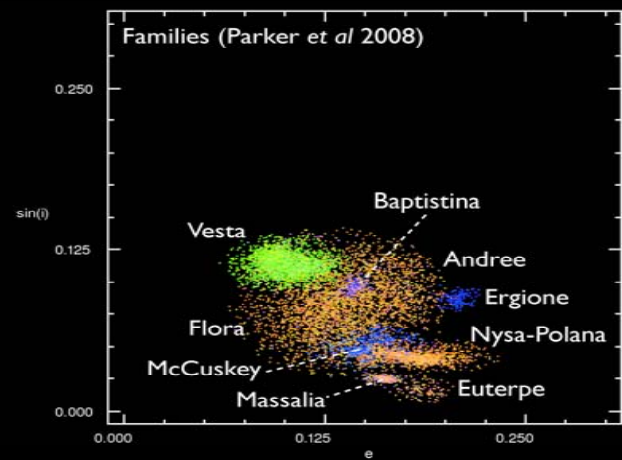
Inner Belt ($a < 2.5$ AU)

Mid Belt ($2.5 < a < 2.82$ AU)

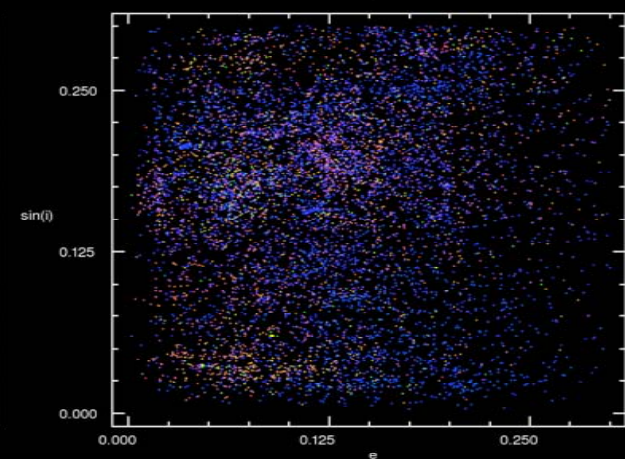
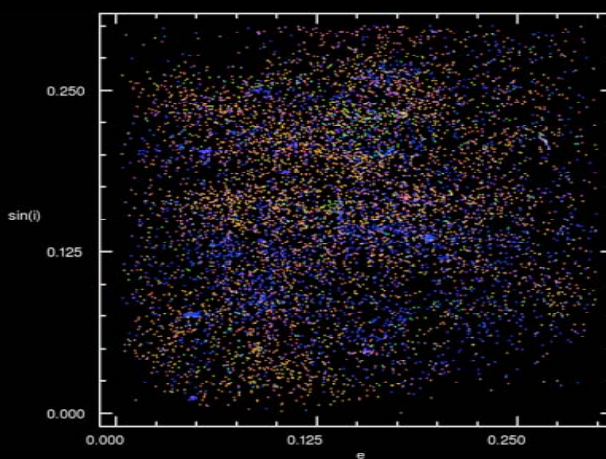
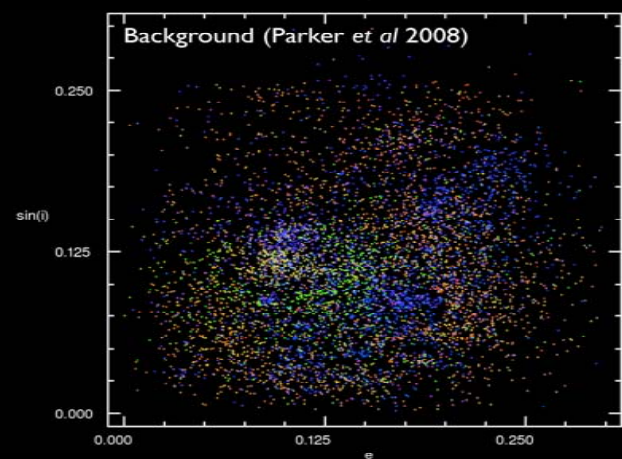
Outer Belt ($a > 2.82$ AU)



Families (Parker et al 2008)



Background (Parker et al 2008)



Metode za određivanje starosti

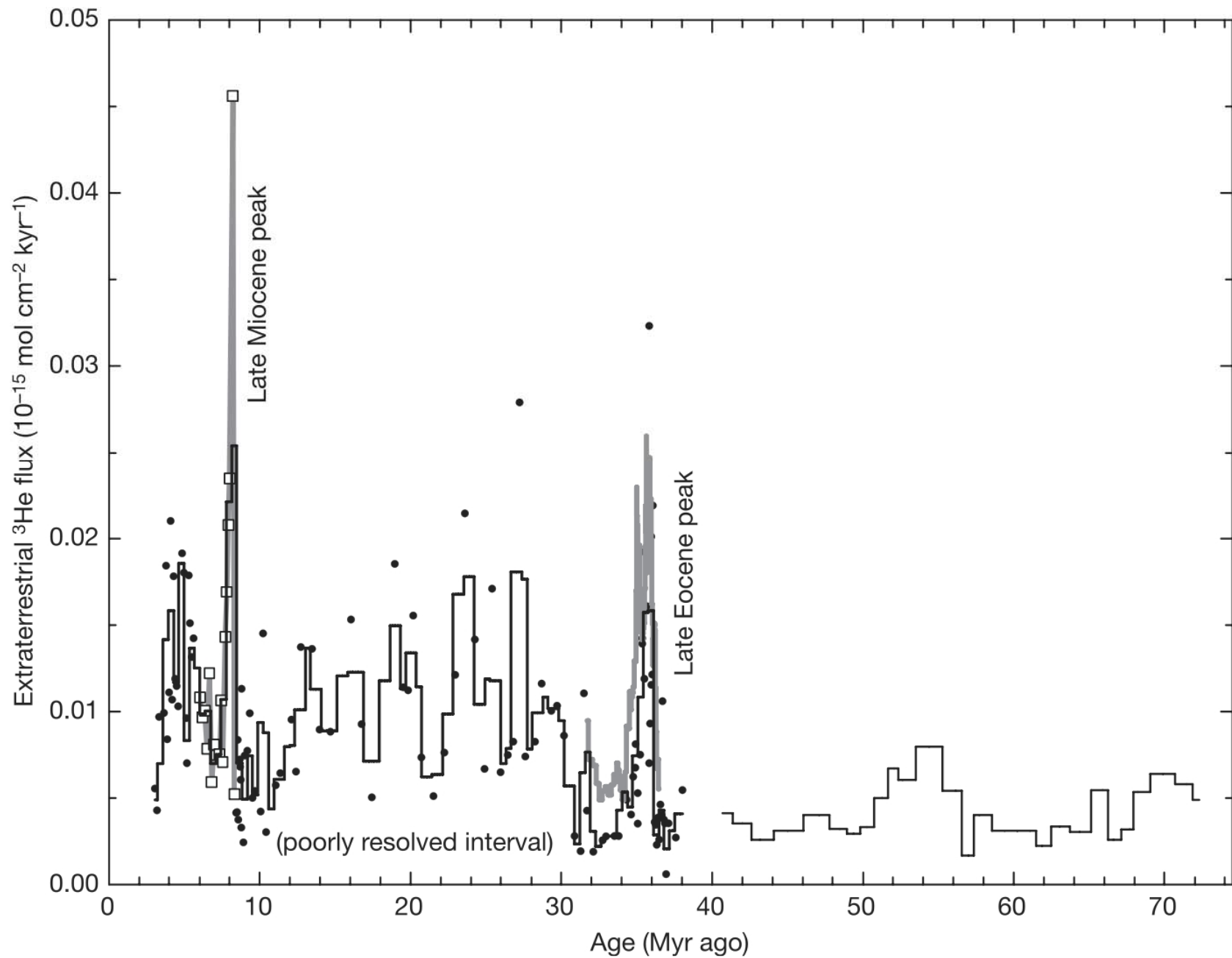
- Koncentracija He
- Integracija orbita unazad u vremenu
- Modeliranje efekta Yarkovskog
- Haotična hronologija
- Brojanje kratera na površini
- Modeliranje evolucije raspodele asteroida po veličinama

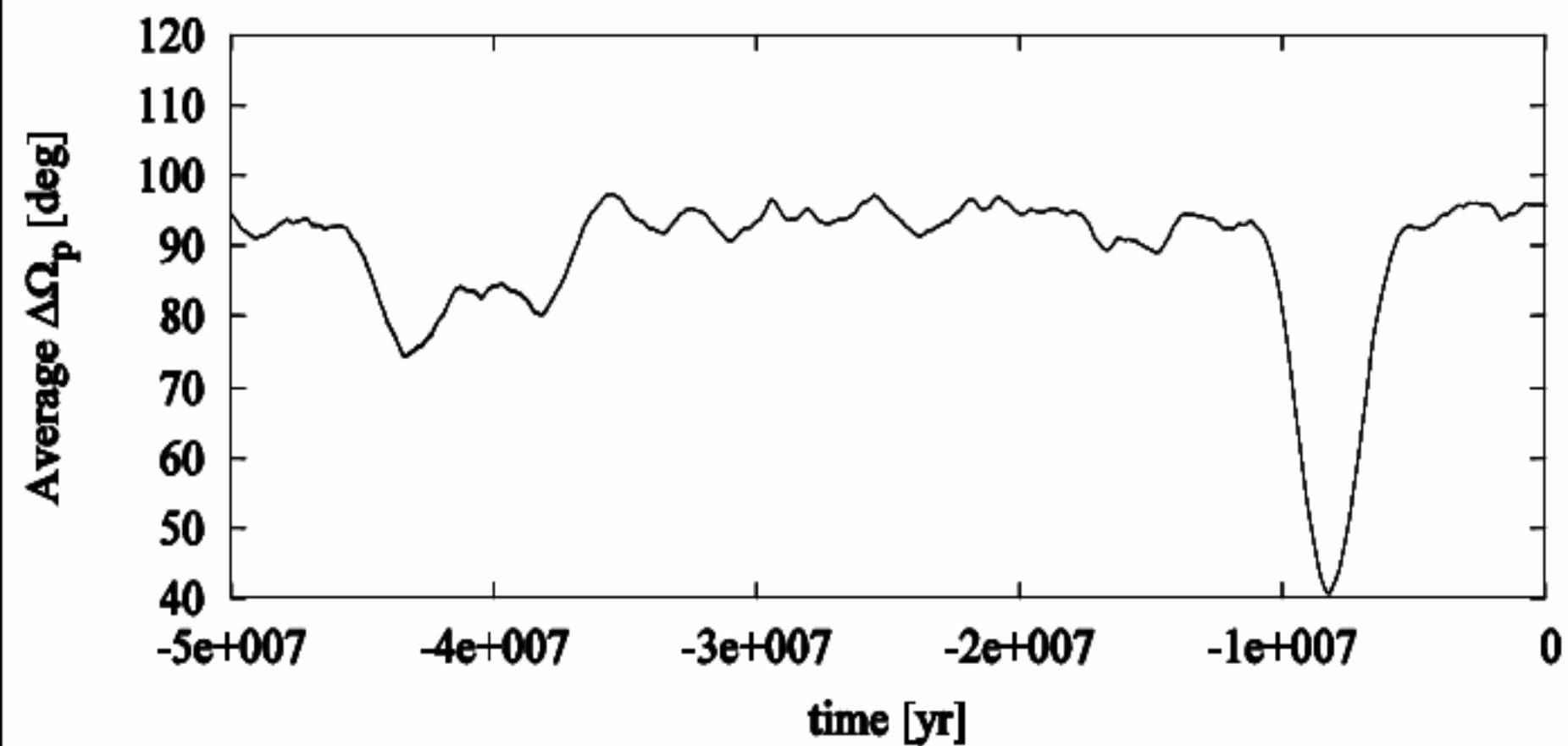
- (951) Gaspra
- 50-300 Myr

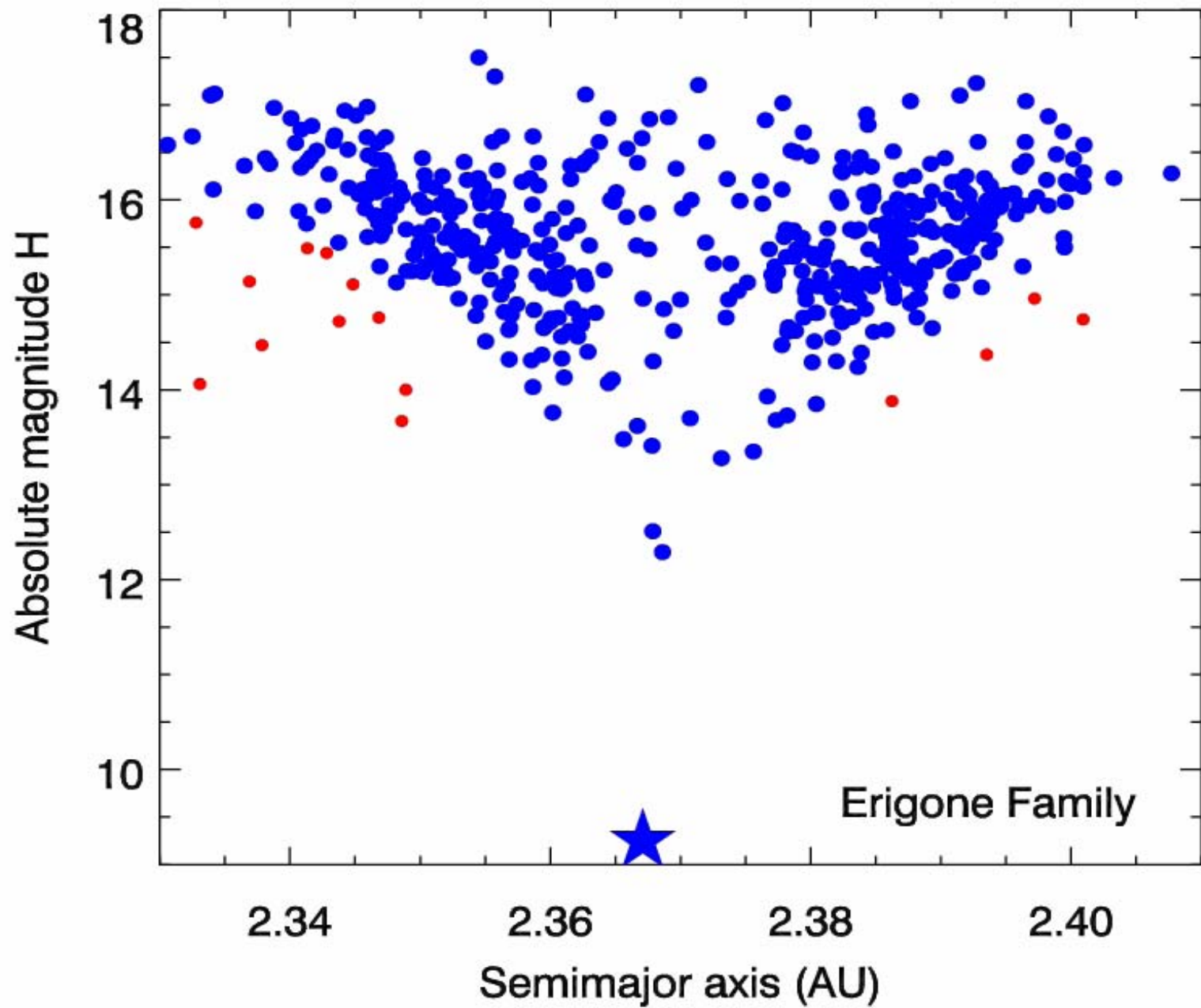


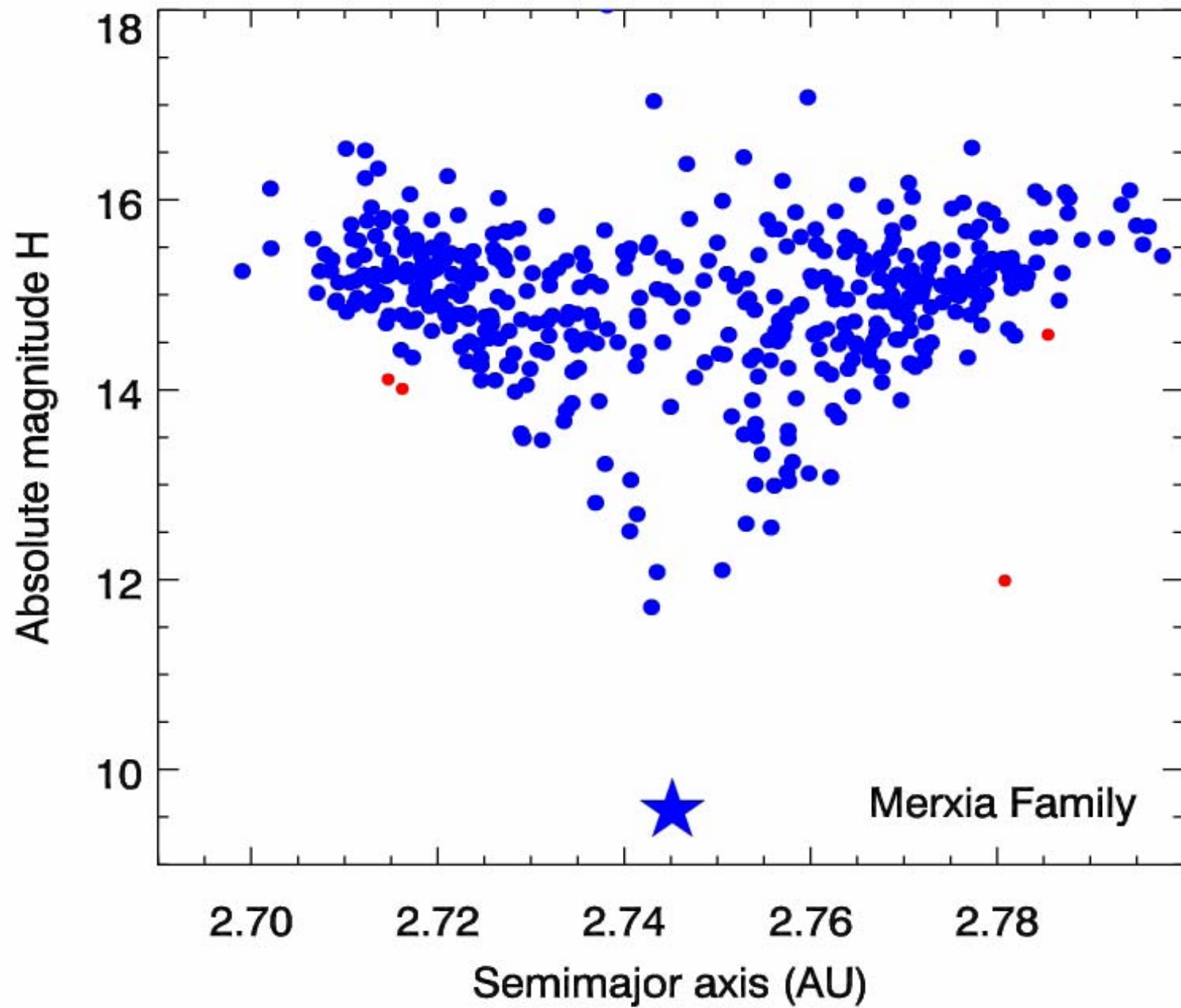
- (243) Ida
- ~ 2 Gyr













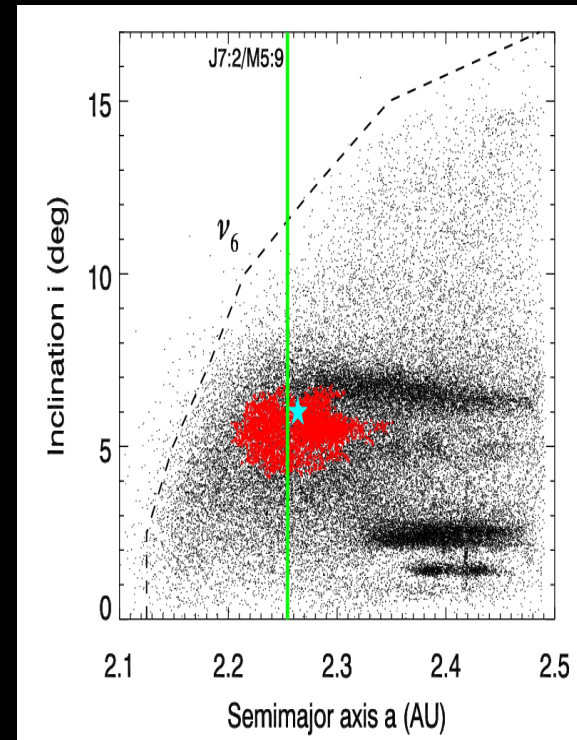
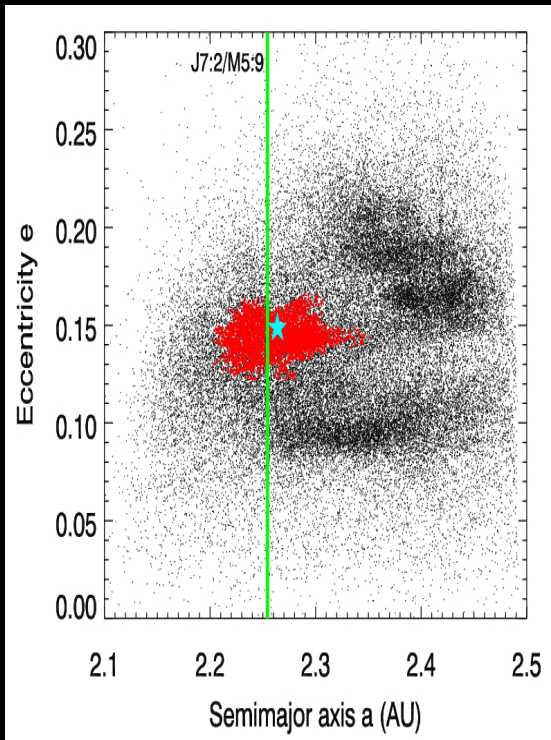
Sad

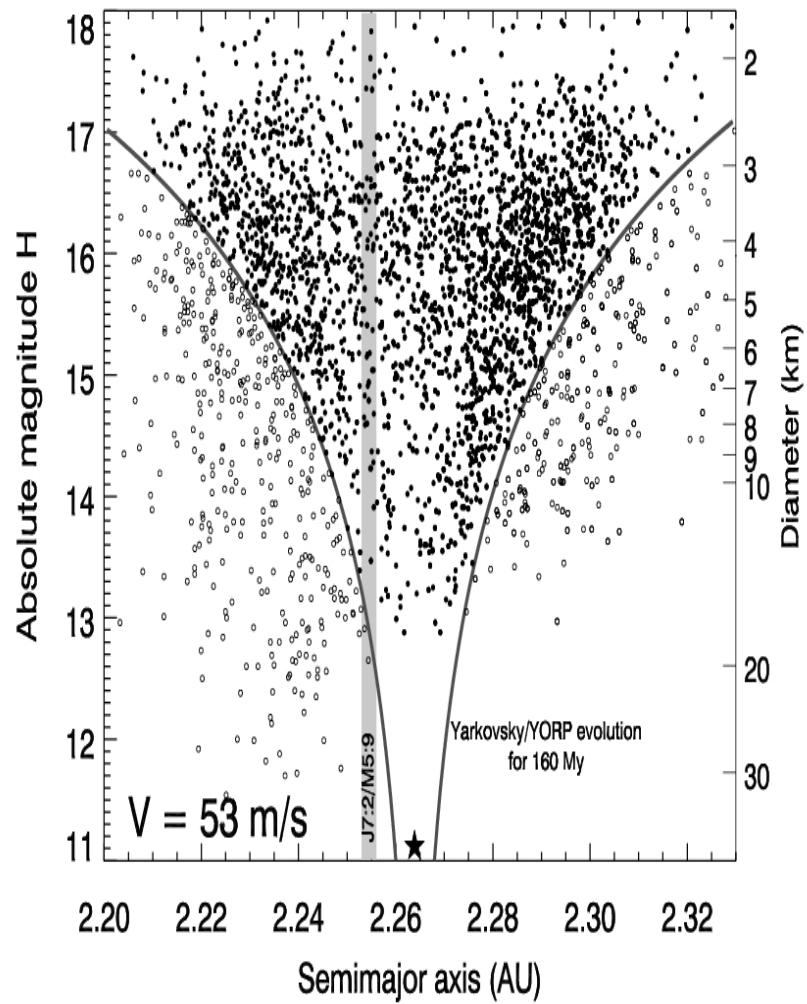
znamo

ko je

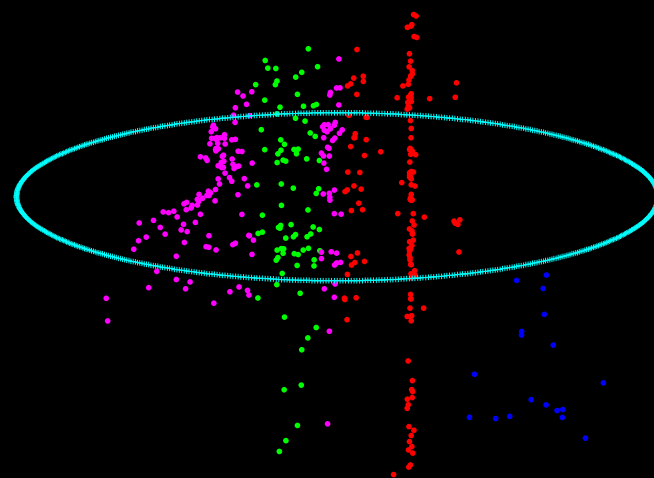
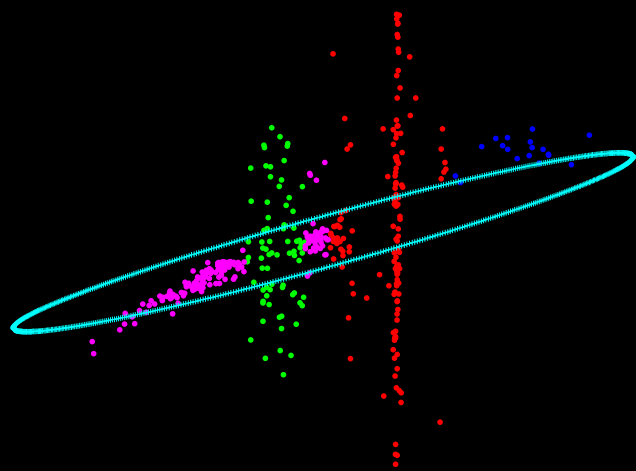
“kriv”

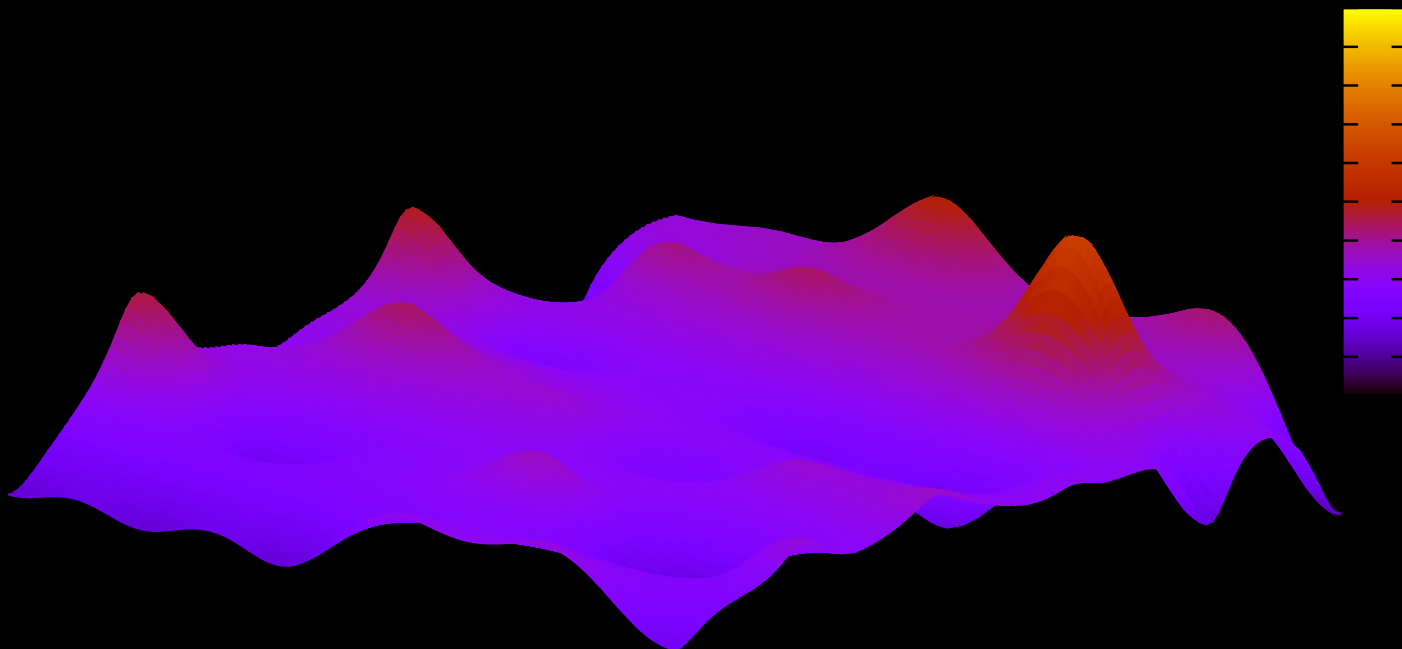
Familija Baptistina

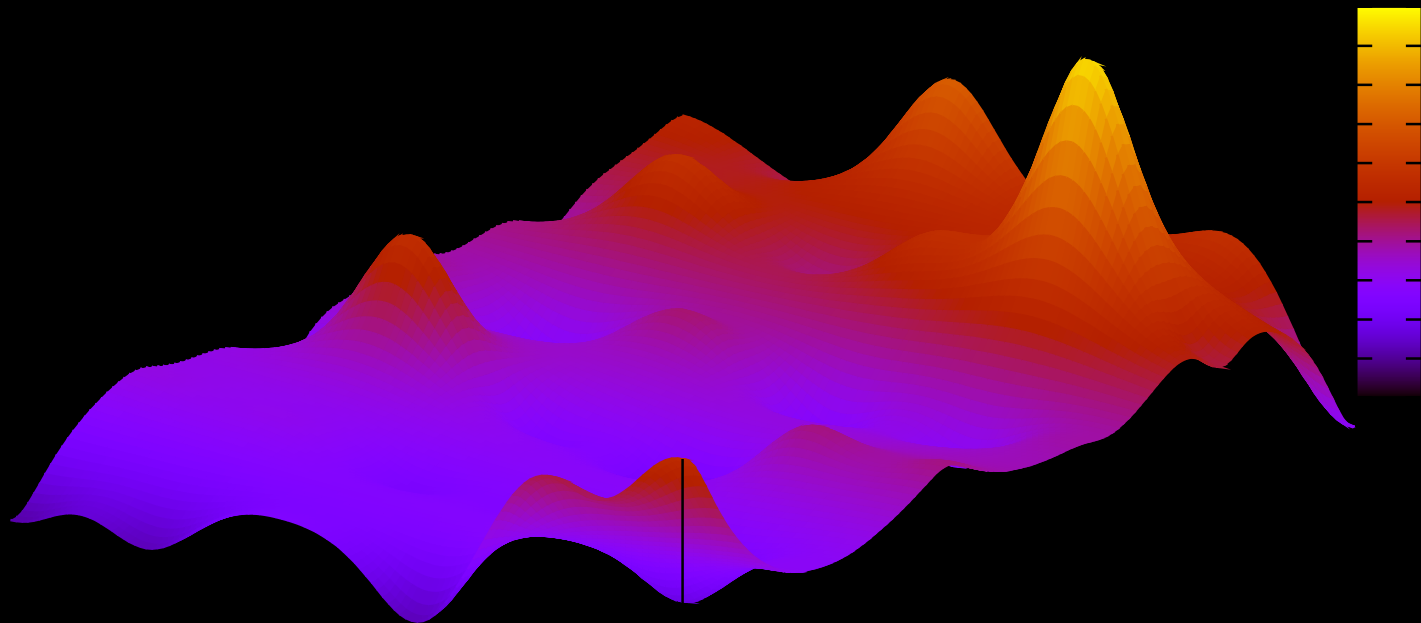




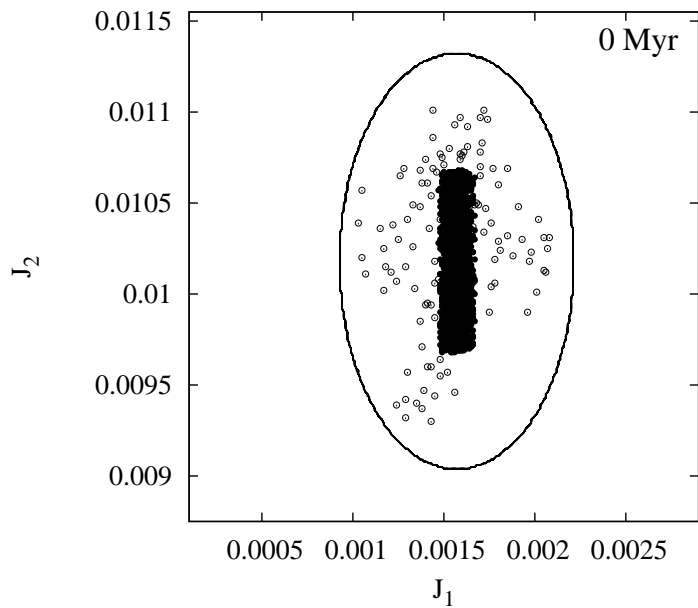
Metod haotične hronologije



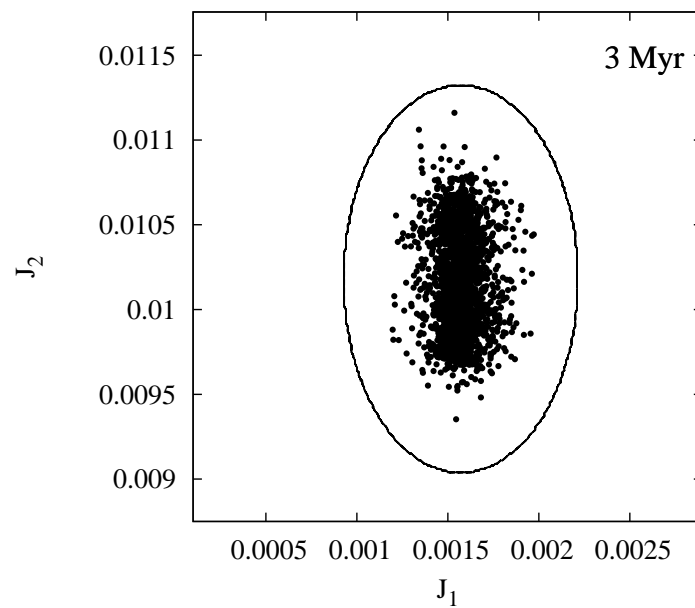




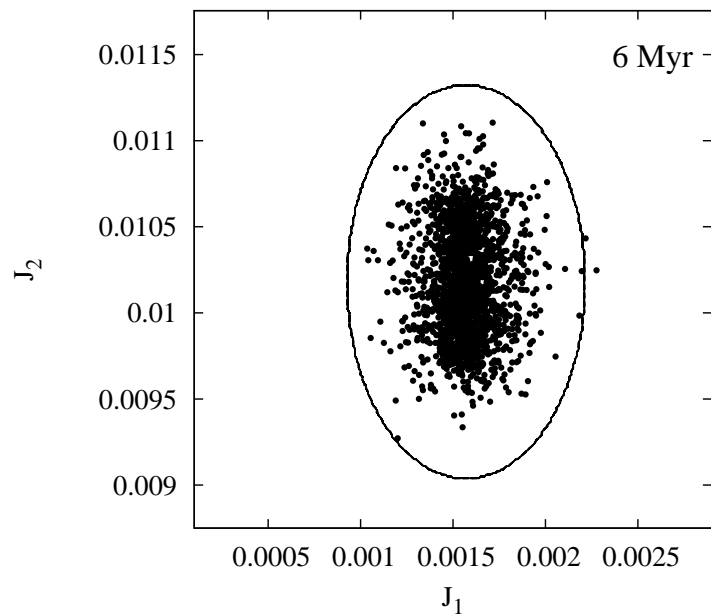
$n=2000$, $dt=500\text{yr}$, $\delta J_1(0)=2.0\times 10^{-4}$, $\delta J_2(0)=10.0\times 10^{-4}$



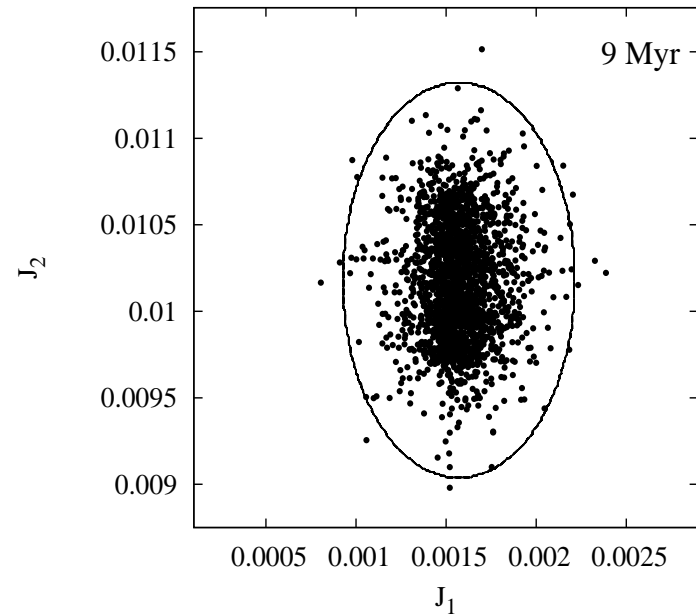
$n=2000$, $dt=500\text{yr}$, $\delta J_1(0)=2.0\times 10^{-4}$, $\delta J_2(0)=10.0\times 10^{-4}$



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$n=2000$, $dt=500\text{yr}$, $\delta J_1(0)=2.0\times 10^{-4}$, $\delta J_2(0)=10.0\times 10^{-4}$



That's all...

Thank you for your attention