

# **Leiden-BNU Summer School for Astrophysics**

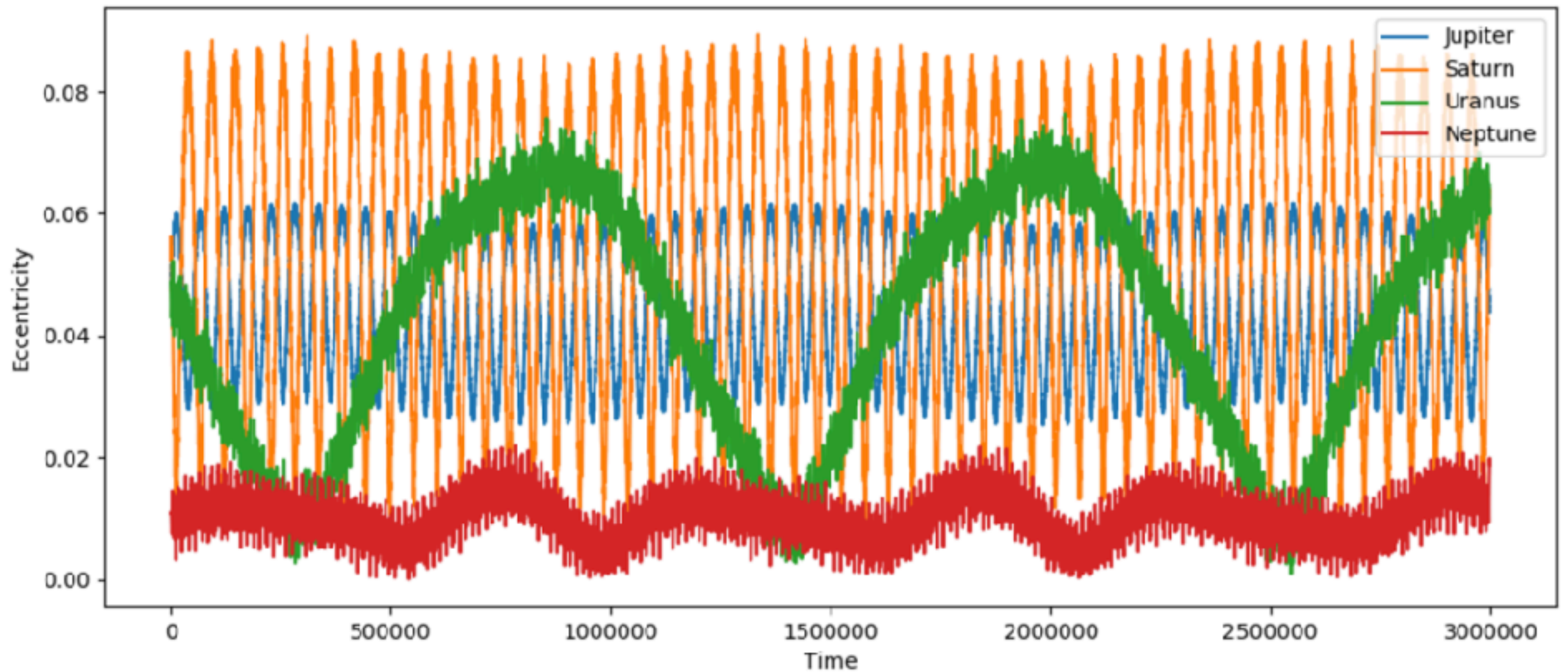
Student Projects

**Dr. Maxwell Cai (Leiden University)**

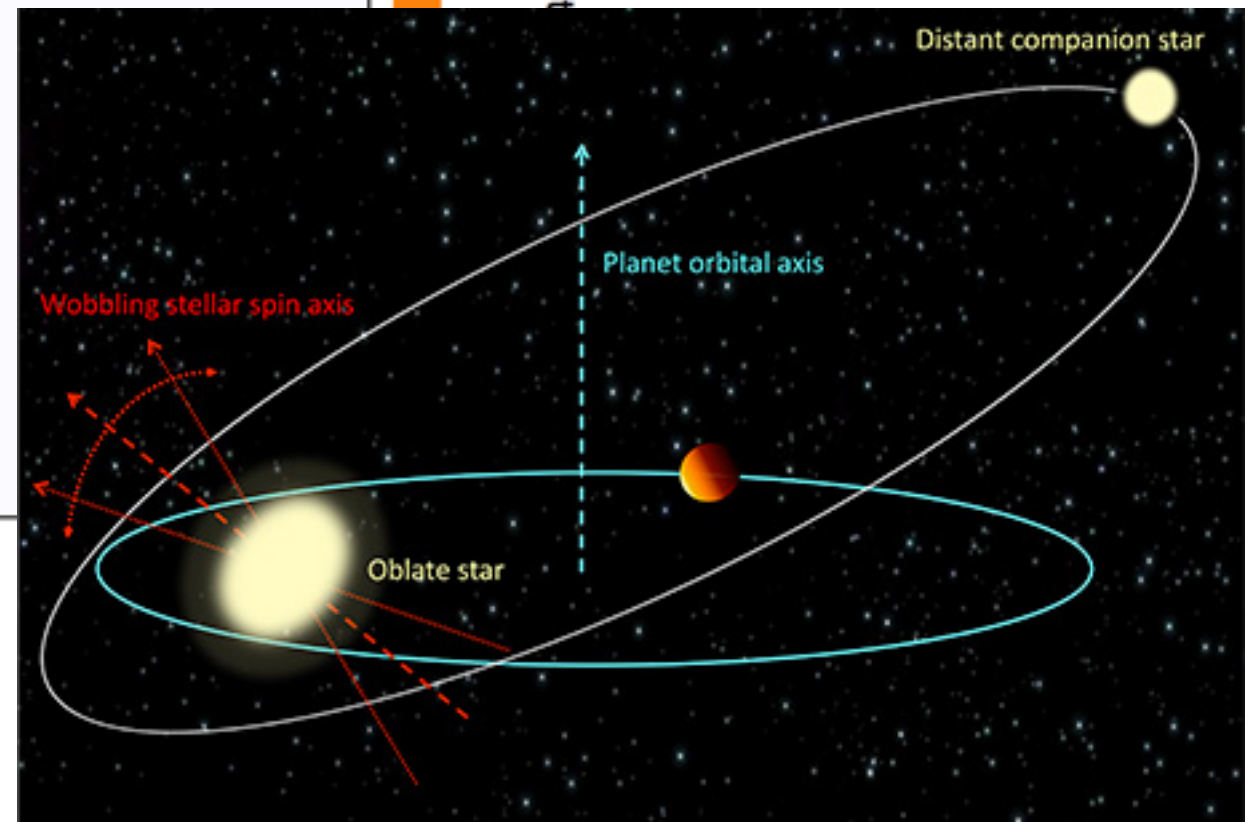
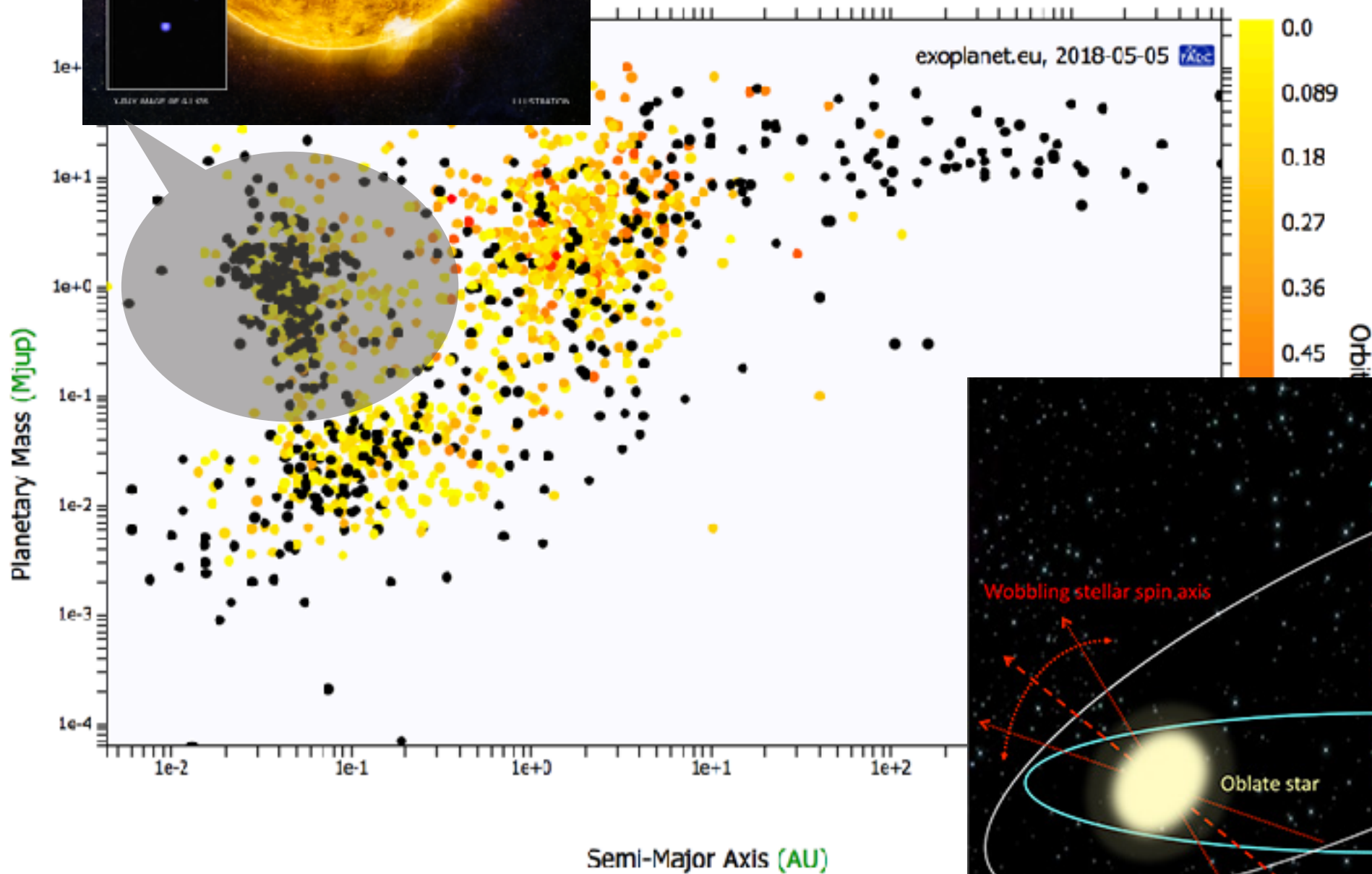
# Rationale

- Theme: gravitational dynamics
- Format: hands-on projects + lectures
- Group: two students per group
- What to learn: astrophysics of dynamical systems, modeling, data analysis

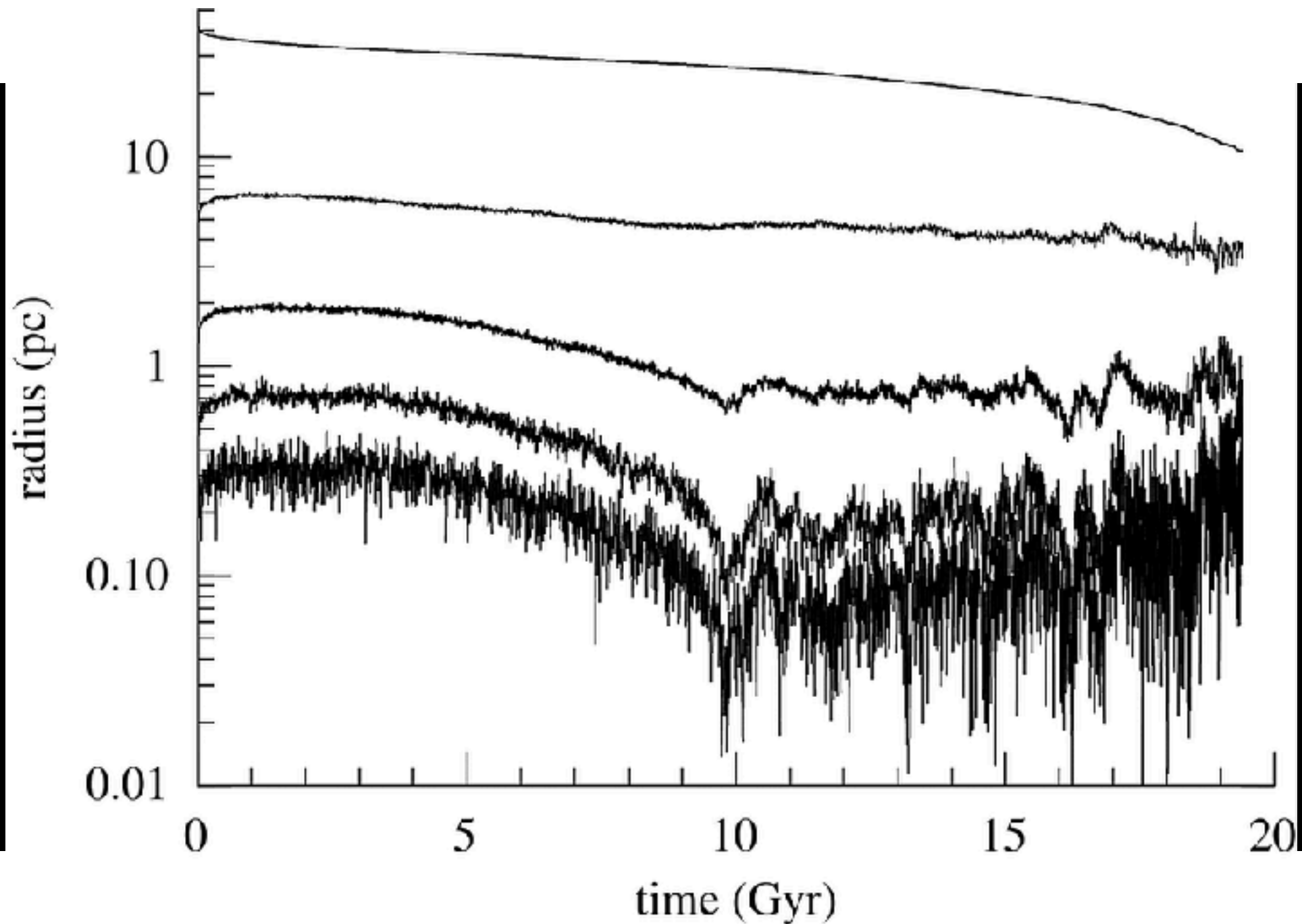
# Project 1: Secular evolution of Planetary Systems



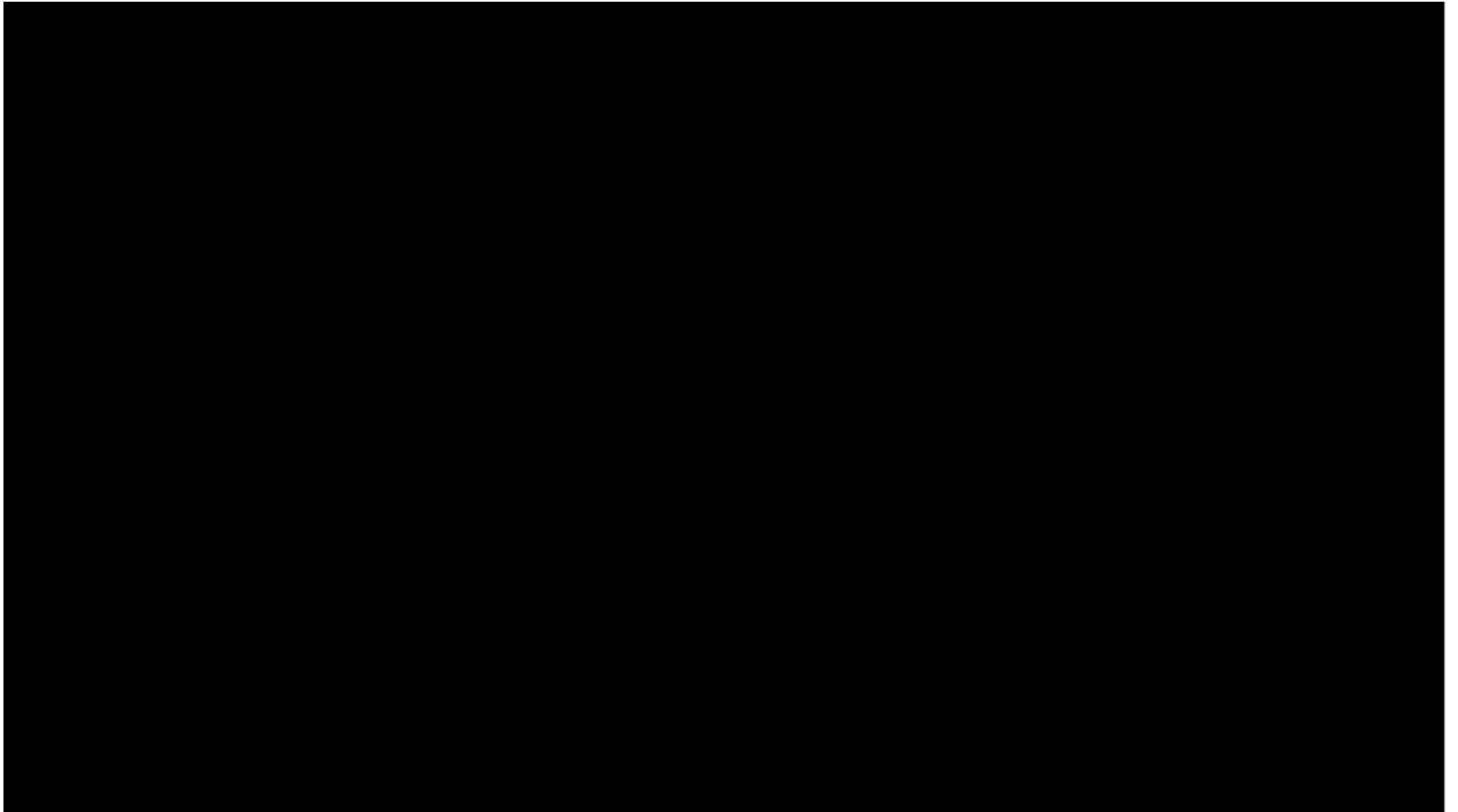
# Part 2: Formation of Hot Jupiters



# Project 3: Dynamical Evolution of Star Clusters

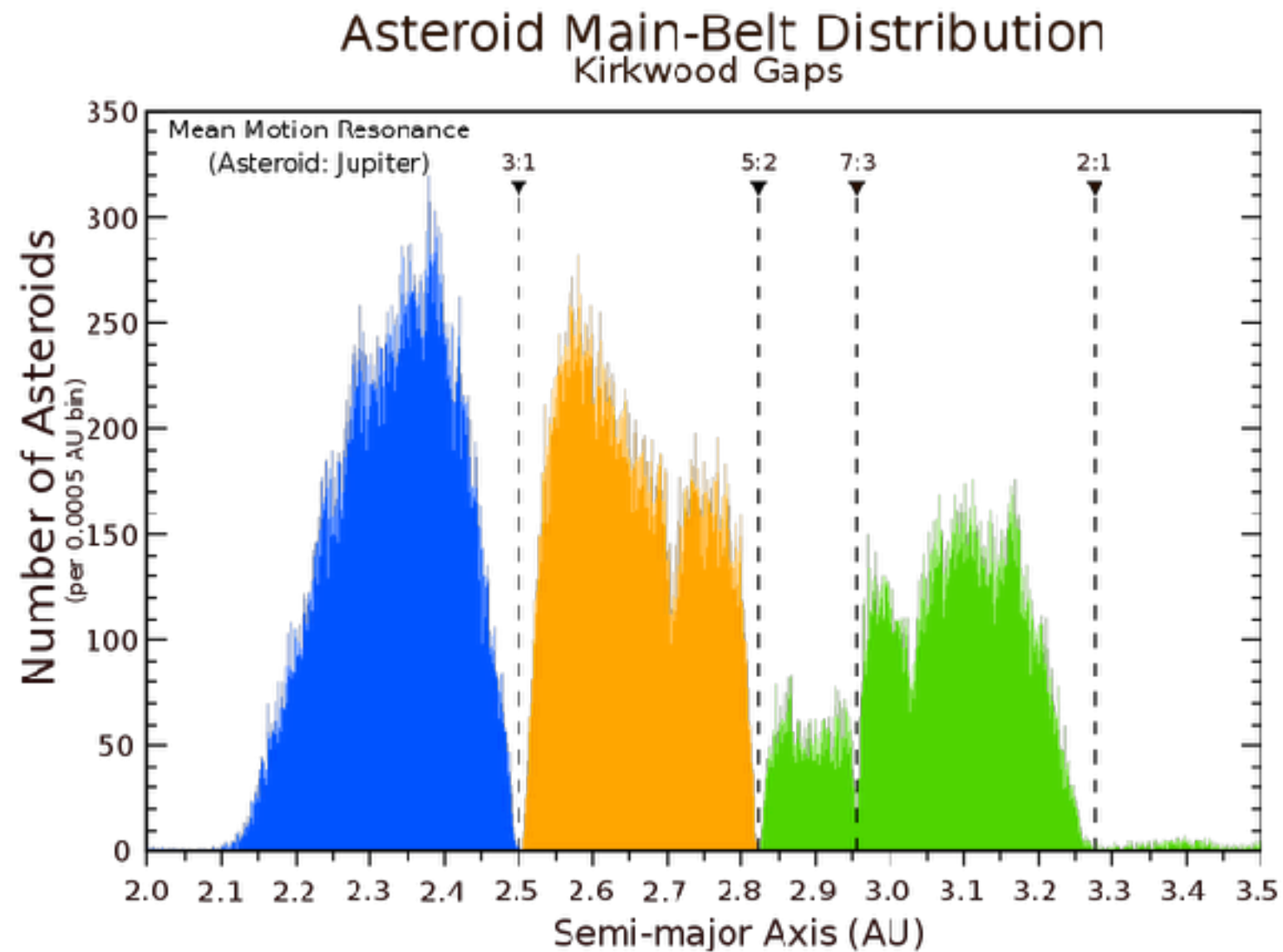
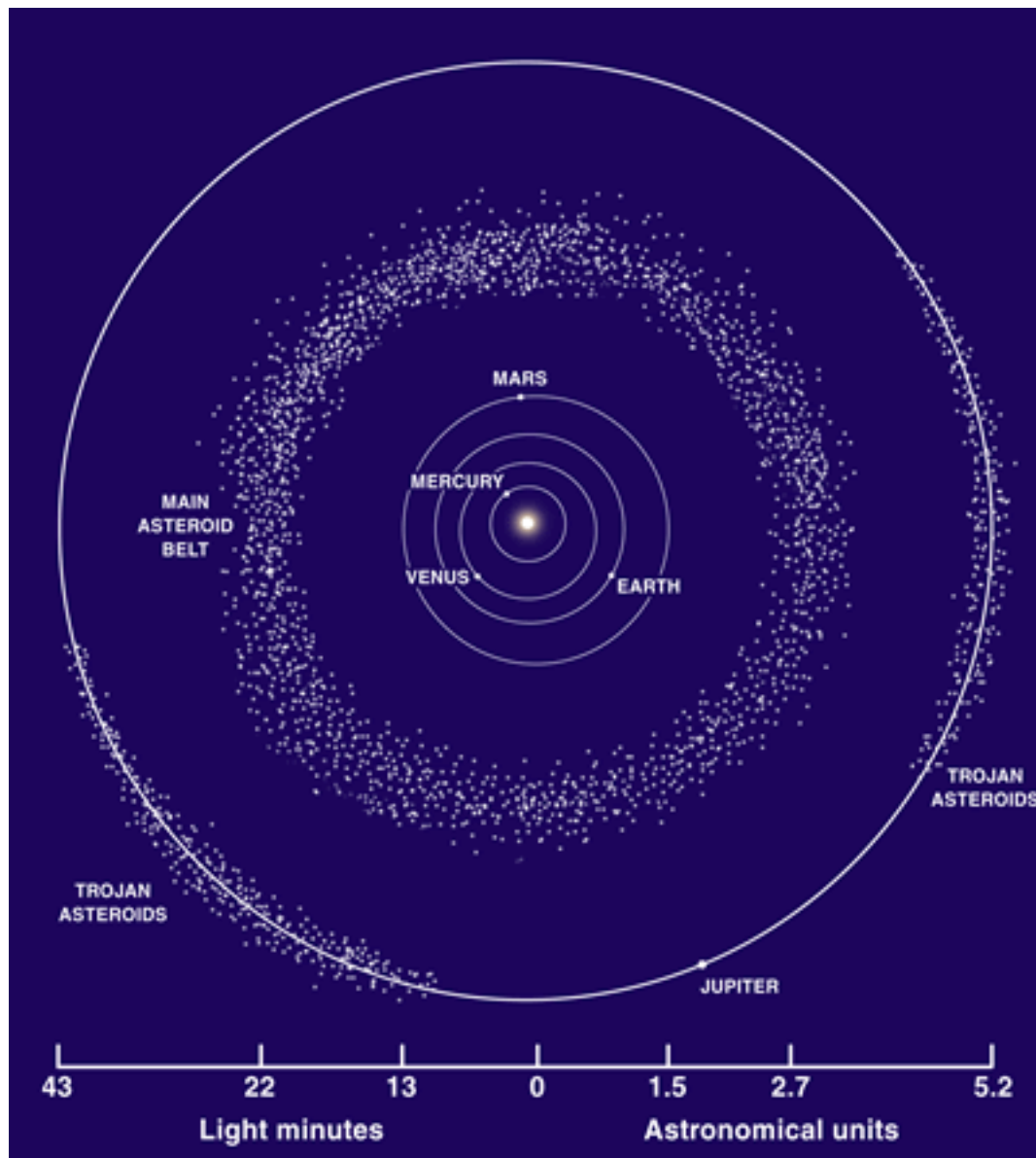


# Project 4: Milkyway- Andromeda Merger





# Project 5: Jupiter as a Shepherd of Asteroids



# Project 6: Simulating Molecular Cloud

- Stars form in star cluster, which is in turn formed due to the collapse of the giant molecular cloud
- We use a SPH code to simulate the collapsing process of a molecular cloud

