The analysis of MW structure based on orbital calculation from Gaia data

My research will reveal the dynamical structure of Milky Way (MW).

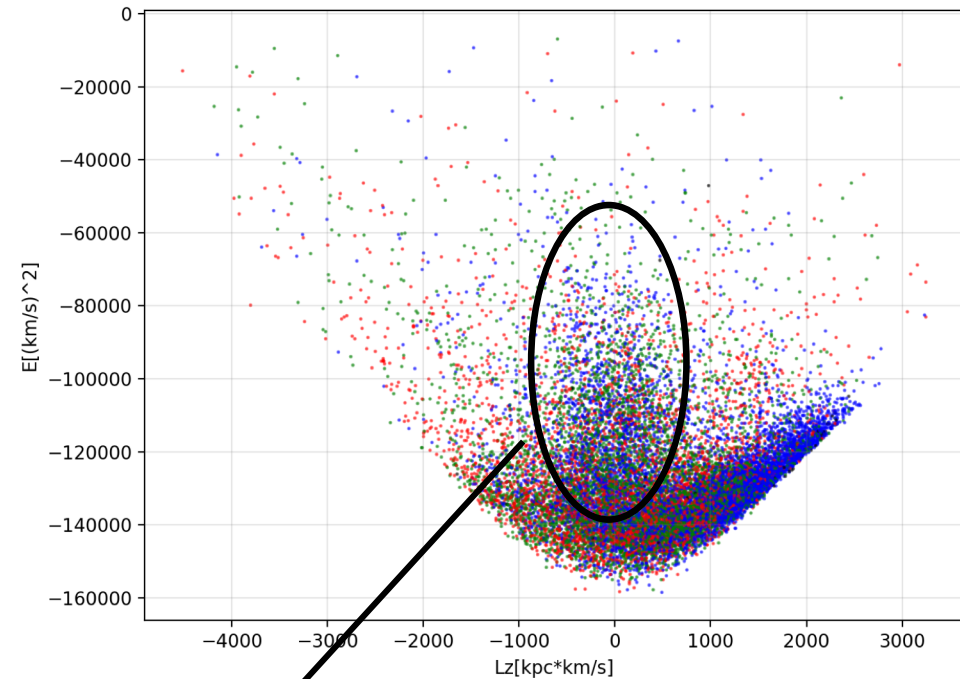・"dynamical" structure ⋯in velocity, integrals, or action space

→the process of the evolution of the MW

⋯**The galaxy archeology**

the structure of invisible matter

⋯**The identity of dark matter**

prospect

Gaia-Enceladus-Sausage

observational data has some structures in MW

→using this data, I can reproduce the overall structures

I analyze this data based on orbital calculation (called as Schwarzschild model),

focusing on a specific observational structure.

present achievement

orbital density distribution on the galactic plane
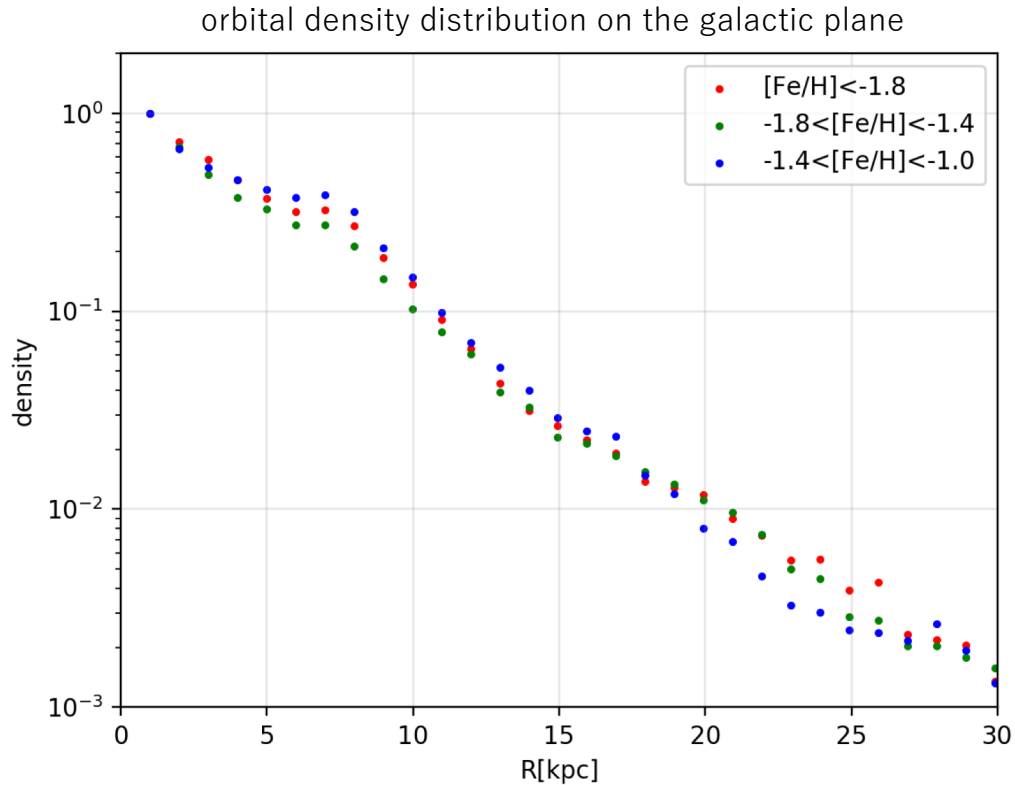
I calculated the orbital distribution, using the data of stars in the halo within 1kpc from the Sun, divided by metallicity.

I can fit the distribution into $\rho \propto 10^{-aR}$

My plan of studying abroad

The candidates of collaborator
- Amina Helmi (University of Groningen)
- Ewa L. Łokas (Nicolaus Copernicus Astronomical Center)
- Rosie Wyse (Johns Hopkins University)
- Evan Kirby (California Institute of Technology)

I plan some seminars with them.
I plan short studying abroad after that, around 2022 summer