escape velocity to evolve in its potential for 2×10^9 years, time enough for the sistem to relax. Figure 1 shows the resulting kinematic distribution of stars after performing the simulation in different places. The gathering along the main axis suggests that the stars form kinematical groups that maintain the triaxial shape of the halo over a long period of time. We also simulate the fall of a satellite in the halo potential that is trapped in a resonant orbit and analize the resultant phase space. We observe that the stars remain in the orbit for a long time and tend to form kinematical groups.

3. CONCLUSIONS AND FUTURE WORK

Our work suggests that if the Galaxy dark matter halo is indeed triaxial, then the resonant orbits are allowed and this induces the kinematical groups to form. There are other mechanisms that produce kinematical groups such as tidal disruptions of globular clusters, but these groups will be made of highly homogeneous stars, while the groups associated with the halo shape will have mixed stars. If this strategy to determinate the Galactic dark matter halo shape is successful, it might be benefited by the data from the astrometric satellite GAIA and the follow-ups.

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