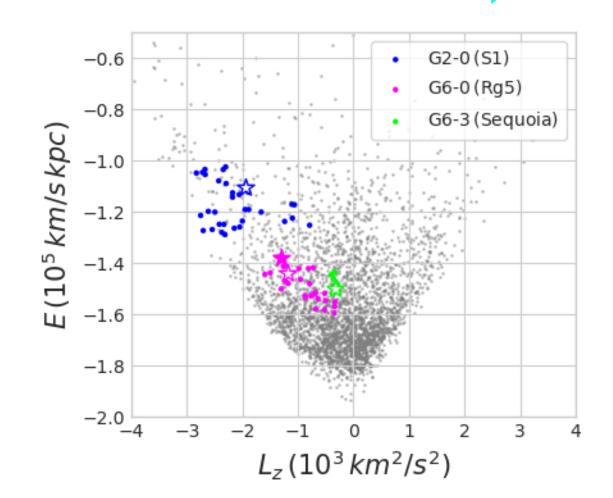# Dynamical Relics Associated with R-process Enhanced Stars from Mergers of Small Galaxies

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StarGO

https://github.com/salamander14/StarGO

Abstract

We apply a novel neural network based clustering method, StarGO to the largest bright **very metal-poor** star catalog, LAMOST DR3 VMP. Almost all of the existing substructures can be rediscovered. Three of them **(S1, Rg5, and Sequoia) are found to be dynamically associated with four r-II stars** from the literature. S1 and Rg5 have mean metallicities below -2 (Myeong 2018). Their progenitors are very likely **low mass dwarf galaxies**, which are contaminated by **neutron star merger** events.

Helmi

Sausage+New1

Sequoia

S1

Rg5

Nyx+New2