

The Chemical Evolution of Mn in the Local Dwarf Spheroidal Galaxies

Thursday, 25 April 2013 18:00 (5 minutes)

Iron-peak element distribution is very important for research of the evolution of dwarf spheroidal galaxies (dSphs). Manganese (Mn) is the most observed element for local dSphs in the iron-peak elements (except Fe). In this paper, an improved model, more reasonable supernova nucleosynthesis and supernova explosion rates are used to investigate the Mn evolution of three local dSphs: Fornax, Sculptor and Sextans. Our model can fit the main observation of Mn distribution for these local dSphs. The results indicate the current estimated star formation history of these dSphs is reliable and consistent with the observational data of Mn (except the Sculptor dSphs at $[\text{Fe}/\text{H}] > -1.3$). The results also give some limit to the supernova nucleosynthesis. For example, the assumption of metallicity-dependant Mn yield is not necessary because we can explain the observation without it.

Primary author: Dr LIU, Menquan (Shanghai Astronomical Observatory)

Presenter: Dr LIU, Menquan (Shanghai Astronomical Observatory)