

B04a **Study of Star formation and ISM in the Magellanic Clouds by ALMA**

Akiko Kawamura, Erik Muller, Kosuke Fujii, Tetsuhiro Minamidani, Norikazu Mizuno (NAOJ), Toshikazu Onishi (Osaka Pref. Univ.), Yasuo Fukui (Nagoya Univ.), NANTEN/NANTEN2 team, SAGE/Heritage team

The Large Magellanic Cloud (LMC) and the Small Magellanic Cloud (SMC) are the best astrophysical laboratories to study the lifecycle of the interstellar medium (ISM), because their proximity (~ 50 kpc and ~ 60 kpc) permits detailed studies of resolved ISM clouds and their relation to stellar populations on global scales. In terms of star and cluster formation, the current formation of young populous clusters like R136 makes it possible to study cluster formation and its effects to the surrounding medium as well.

Historically, the Magellanic Clouds have played a key role in bridging the gap between the detailed study of astrophysical processes in the MW and the global study of these processes in nearby galaxies. Furthermore, the metallicity of the LMC and SMC brackets the metallicity of galaxies at the epoch of peak star formation in the Universe, and thus, they have also been used as template galaxies for the more distant Universe.

The Magellanic Clouds have been surveyed at many wavelengths revealing structures on all scales; especially recent Infrared satellites have been presenting us with valuable information of interstellar dust, stellar populations, etc. Here, with the new epoch opened by ALMA, we started to be able to study individual star and cluster forming regions of the Clouds with sub-parsec scales.