Near-infrared Spectroscopic Survey of the Large Magellanic Cloud with AKARI

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Infrared satellite AKARI is equipped with InfraRed Camera (IRC) which has a powerful wide-field multi-object spectroscopic capability. We have performed a spectroscopic survey of the Large Magellanic Cloud (LMC) with the IRC/AKARI.

The LMC is the nearest irregular galaxy to the Milky Way, and it is one of the few galaxies which we can obtain spatially resolved information of individual stars. So far various kinds of surveys have been performed toward the LMC. However, there are still few spectroscopic surveys in the infrared wavelength range. Infrared spectral information is necessary for the classification and the investigation of the individual spectral features of infrared bright objects, e.g. young stellar objects or mass-losing evolved stars.

As a result of the spectroscopic survey of the LMC with IRC/AKARI, we obtained 2 -- 5 micron spectra of ~3000 point sources in the LMC. In terms of the number of sources, this is the largest infrared spectroscopic survey ever performed toward the LMC. In this presentation, we introduce this survey and examples of a science with the survey data in more detail.