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国台学术报告 NAOC COLLOQUIUM

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Time: Wed. 2:30 PM, Nov. 29th Location: A601 NAOC

**Surveys of Warm Molecular Gas in Local LIRGs:
from Herschel to ALMA**

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Dr. Nanyao Lu obtained his Ph.D. in Astronomy from Cornell University in New York, USA in 1993. Afterwards, he joined the Infrared Astrophysical Group at Jet Propulsion Laboratory as a postdoctoral fellow, and went on to become a staff scientist at the Infrared Processing and Analysis Center of California Institute of Technology. From 1995 to 2015, he worked there as an instrument team-associated scientist on a number of infrared astronomical space missions, including the Infrared Space Observatory, the Spitzer Space Telescope and the Herschel Space Observatory. In 2016, he took a post as a senior research scientist with NAOC and the China-Chile Center for Astronomy. While he started his research career with HI 21cm observations of galaxies and galaxy large-scale distribution in the local Universe, his more recent research activities involve infrared and sub-millimeter observational studies of star formation, interstellar medium and their interplay in both normal and luminous infrared galaxies.

Abstract

I will present our analysis results on the mid-J CO line emission over galaxy scale from a large sample of local luminous infrared galaxies (LIRGs) surveyed with Herschel Space Observatory and the CO (6-5) line emission over scales of 30-100 pc in the nuclei of representative LIRGs observed with the Atacama Large Millimeter Array. The mid-J CO line emission acts as the cooling mechanism for the dense molecular gas that is giving birth to and also receiving energetic feedback from young stars. I will highlight what we have learnt from these observations with respect to the interplay between molecular gas, star formation and active galactic nuclei within individual galaxies and along the sequence from normal star-forming galaxies to those dominated by extreme nuclear star formation.

All are welcome! Tea, coffee, biscuits will be served at 2:15 PM