

Search for Prebiotically Important Complex Organic Molecules Using the ALMA

Supervisors:

Prof. KUAN, Yi-Jehng (管一政教授)

Dr. Ronny Zhao-Geisler (趙家驊博士)

At 5,000 m altitude, ALMA is the largest astronomical observing facilities existent. Consist of 66 12-m and 7-m antennas, ALMA will act as a single telescope with variable diameters of 150 m to 16 km. ALMA is designed to address some of the most profound questions of our cosmic origins including the origins of life itself. In the Cycle-0 Early Science carried out between 2011 Sep 30 and 2013 Jan 01, ALMA was operated with up to 28 antennas and achieved sub-arcsecond sharpness at millimeter and submillimeter wavelengths, and was already the most powerful telescope for observing the cool universe.

Out of the 1,041 hours used for successful ALMA observations in Cycle 0, 9.5 hours were allocated to our project looking for prebiotically important, interstellar complex organic molecules toward the Orion KL hot molecular core; the actual observations were carried out in 2012 Nov and Dec and the data were just delivered to us in 2013 Mar. In this summer, surely we will be working on this exciting project. We welcome dedicated applicants with a strong interest in Astrobiology/Bioastronomy (天文生物學). Strong background in Physics is a plus (however, background in chemistry and biology is not essential).