여 왔고, 최근 2017년 2월 13-14일에는 한국천문연구원에서 <The 5th We Love Galaxies Workshop: A Dialogue between Present and Future>을 개최하였습니다. 본 발표에서는 지난 5번의 We Love Galaxies Workshop들을 되돌아보며, 그 성과와 한계에 대한 이야기를 하고자 합니다. 또한, We Love Galaxies의 앞으로의 계획과 함께 대학원생이 중심이 되는 워크숍이 지속되어야 하는 이유에 대하여 말씀드리고자 합니다.

## 성간물질/우리은하

### [구 IM-01] TRAO Multi-beam Legacy Survey of Nearby Filamentary Molecular Clouds : Progress Report

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To dynamically and chemically understand how filaments, dense cores, and stars form under different environments, we are conducting a systematic mapping survey of nearby molecular clouds using the TRAO 14 m telescope with high ($N_2H^+$ 1-0, $HCO^+$ 1-0, SO 32-21, and $NH_2D$ v=1-0) and low ($^{13}CO$ 1-0, $C^{18}O$ 1-0) density tracers. The goals of this survey are to obtain the velocity distribution of low dense filaments and their dense cores for the study of their origin of the formation, to understand whether the dense cores form from any radial accretion or inward motions toward dense cores from their surrounding filaments, and to study the chemical differentiation of the filaments and the dense cores. Until Feb. 2017, the real OTF observation time is 460 hours. We have almost completed mapping observation with four molecular lines ($^{13}CO$ 1-0, $C^{18}O$ 1-0, $N_2H^+$ 1-0, and $HCO^+$ 1-0) on the five regions of molecular clouds (L1251 of Cepheus, Perseus west, Polaris south, BISTRO region of Serpense, California, and Orion B). The maps of a total area of 7.38 $deg^2$ for both $^{13}CO$ and $C^{18}O$ lines and 2.19 $deg^2$ for both $N_2H^+$ and $HCO^+$ lines were obtained. All OTF data were regridded to a cell size of 22 by 22 arcseconds. The $^{13}CO$ and $C^{18}O$ data show the RMS noise level of about 0.22 K and $N_2H^+$ and $HCO^+$ data show about 0.14 K at the velocity resolution of 0.06 km/s. Additional observations will be made on some regions that have not reached the noise level for analysis. We are refining the process for a massive amount of data and the data reduction and analysis are underway. This presentation introduces the overall progress from observations to data processing and the initial analysis results to date.

### [구 IM-02] Multiple Molecular Line Analysis in the Planck Cold Clumps with KVN Follow-up Observations.

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Stars form in dense core within the molecular clouds. The prestellar cores provide information of the physical characteristics at the very early stages of star formation. The low dust temperature (<14K) of Planck cold clumps/cores (PGCCs) make them likely to be prestellar objects or at the very initial stage of protostellar collapse. We have been conducting the legacy surveys of Planck cold clumps with the JCMT, the TRAO 14-m and many other telescopes. We aim to study of the initial conditions of star formation and chemical evolutions of the cores in the different environments. From JCMT SCUBA-2 850 μm survey (SCOPE), we have already identified hundreds of dense cores, which may be at the earliest phase of star formation. Therefore in order to explore the chemical evolution of these dense cores, we used KVN telescopes in order to observe 75 well selected SCUBA-2 cores in many molecules as the follow-up project of KVN Pilot Observation of SCUBA-2. These observations will help advance our understanding of the propoerties of these SCUBA-2 cores in PGCCs.

### [구 IM-03] Discovery of a Cloud Collision with the OMC-1

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Utilizing both the existing observational data for Orion A and the TRAO $^{13}CO$, $^{12}CO$ data for 1°×1° region centered on M42 collected in 2012, we found a clear piece of evidence for a collision of a cloud with the OMC-1. This cloud has a shape like a long cylinder of ~0.1 pc × 2 pc in size, and has a well