

이 따랐다. 현재 YAM은 본 모임의 온라인 소식지인 <하늘사랑> 제 9호 발간 및 온라인 모임을 준비함으로써 직접 만나기 어려운 회원들의 소식을 공유하고자 한다. 본 포스터에서는 2020년 상반기 활동을 보고하고 하반기 활동 계획에 대해 논의하고자 한다.

**[포 AE-02]Projecting and Researching GNSM's Online Programs of Astronomical Contents(국립과천과학관 천문컨텐츠 온라인 프로그램 기획·연구)**

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The pandemic of COVID-19 has made it difficult to gather participants in offline astronomical programs since March, 2020. For this reason Gwacheon National Science Museum has developed online programs of the partial solar eclipse and the Asteroid Day event in June, the celebration for launching Mars 2020 in July and Perseids in August. In this poster, we present how to plan each of them and research on methods that deliver astronomical contents to viewers effectively. In addition, we introduce preparing a couple of online programs in the rest of this year.

**성간물질/별생성/우리는하**

**[포 IM-01] Two distinct types of dust polarization in the disk and its vicinity around the protostar TMC-1A**

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We observed the Class I protostar TMC-1A in polarized dust emission at 1.3 mm at a spatial resolution of ~40 au using ALMA. Previous observations revealed a disk (r~100 au), surrounded by an infalling envelope, and a CO outflow going in the north-south direction in TMC-1A. Our observations detected polarized dust emission in a central region (r~50 au) and ~100 au north and south of the central protostar. The former polarization is likely due to self-scattering because of the polarization direction along the disk

minor axis, the polarization fraction independent of Stokes I, and a high optical thickness. The latter polarization is roughly in the outflow region. The position and direction, particularly in the north, imply multiple possible mechanisms: magnetically or mechanically aligned dust grains in the outflow or in an accretion flow.

**[포 IM-02] Disentangling the Assembly History of the Galactic Halo**

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The chemical and kinematic properties of stars in the Galactic halo provide crucial information on the origin of the Galactic halo as well as the assembly history of the Milky Way. In this study, we present metallicity distribution functions (MDFs) in different regions of the Galactic halo as well as the kinematic characteristics in each region. The different MDFs and kinematic properties of stars in investigated regions allow us to associate them with the possible progenitor dwarf galaxies discovered to date; hence the assembly history of the Galactic halo.

**[포 IM-03] BISTROs and Varying Magnetic Fields with Density in Serpens Main**

Woojin Kwon (권우진) on behalf of the BISTRO team  
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The B-fields in Star-forming Region Observations (BISTRO) is a large program of the James Clerk Maxwell Telescope (JCMT) to study the roles of magnetic fields in molecular clouds on intermediate scales (a few thousands au or larger scales), in which a large number of researchers over the world are involved. This project was initiated in 2016 with polarimetric observations of nearby star-forming regions and has been extended toward massive and farther regions (BISTRO-2) and various evolutionary stages and environmental conditions (BISTRO-3). The current status of the BISTRO projects is reported. In addition, we discuss magnetic fields in the Serpens Main molecular cloud, which is one of the BISTRO star-forming regions. Utilizing the Histogram of Relative Orientations method, which compares polarization directions with density gradients, we show that magnetic fields are parallel to filaments in less dense filamentary structures but