[석 IM-09] Chemodynamics Of Ultra Metal-Poor (UMP; [Fe/H] < -4.0) Stars in the Milky Way

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Ultra Metal-Poor (UMP; [Fe/H] < -4.0) stars are thought to be true second generation of stars. Thus, the chemistry and kinematics of these stars serve as powerful tools to understand the early evolution of the Milky Way (MW). However, only about 40 of these stars have been discovered thus far. To increase the number of these stars, we selected UMP candidates from low-resolution spectra (R ~ 2000) of the Sloan Digital Sky Survey (SDSS) and Large Sky Area Multi-Object Fibre Spectroscopic Telescope (LAMOST), and performed high-resolution (R ~ 40,000) spectroscopic follow-ups with Gemini/GARACES. In this study, we present chemical and kinematic properties of the observed UMP candidates, and infer the nature of their progenitors to trace the chemical enrichment history of the MW.

[구 IM-10] High-resolution optical and near-infrared spectroscopic study of 2MASS J06593158-0405277

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We present the results of high-resolution (R ≥ 30,000) optical and near-infrared spectroscopic monitoring observations of a FU Orionis-type object, 2MASS J06593158-0405277. We have monitored 2MASS J06593158-0405277 with the Bohyunsan Optical Echelle Spectrograph (BOES) and the Immersion GRating INfrared Spectrograph (IGRINS) since December 2014. Various features produced by wind, disk, and outflow/jet were detected. The wind features varied over time and disappeared about a year after the outburst occurred. The double-peaked line profiles were detected in the optical and near-infrared, and the line widths decrease with increasing wavelength. The disk features in the optical spectra are fit well with G2-type or G5-type stellar spectra convolved with a disk rotational profile of about 45 km s^{-1}, which corresponds to a disk radius of about 71 $R_{\odot}$ for a central mass of 0.75 $M_{\odot}$. Disk features in near-infrared spectra are fit well with a K1-type stellar spectrum convolved with a disk rotational profile of about 35 km s^{-1}, which corresponds to a disk radius of about 117 $R_{\odot}$ for a central mass of 0.75 $M_{\odot}$. We also detected [S II] and H2 emission lines, which are rarely found in FUors but are usually found in the earlier stage of young stellar objects. Therefore, we suggest that 2MASS J06593158-0405277 is in the relatively earlier part of Class II stage.

[구 IM-11] Making top-heavy IMFs from normal IMFs near the Galactic Centre

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We show that dynamical evolution in a strong (Galactic Centre-like) tidal field can create clusters that would appear to have very top-heavy IMFs. The tidal disruption of single star forming events can leave several bound `clusters' spread along 20~pc of the orbit within 1-2 Myr. These surviving (sub)clusters tend to contain an over-abundance of massive stars, with low-mass stars tending to be spread along the whole `tidal arm'. Therefore observing a cluster in a strong tidal field with a top-heavy IMF does not mean the stars formed with a top-heavy IMF.

특별세션 KVN

[구 KVN-01] 10-Year History and Prospect of the Korean VLBI Network (한국우주전파관측망의 10년 역사와 전망)

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