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We present a quantitative analysis of the relationship between the gas dynamics and star formation history of DDO 210 which is an irregular dwarf galaxy in the local Universe. We perform profile analysis of an high-resolution neutral hydrogen (HI) data cube of the galaxy taken with the large Very Large Array (VLA) survey, LITTLE THINGS using newly developed algorithm based on a Bayesian Markov Chain Monte Carlo (MCMC) technique. The complex HI structure and kinematics of the galaxy are decomposed into multiple kinematic components in a quantitative way like 1) bulk motions which are most likely to follow the underlying circular rotation of the disk, 2) non-circular motions deviating from the bulk motions, and 3) kinematically cold and warm components with narrower and wider velocity dispersion. The decomposed kinematic components are then spatially correlated with the distribution of stellar populations obtained from the color-magnitude diagram (CMD) fitting method. The cold and warm gas components show negative and positive correlations between their velocity dispersions and the surface star formation rates of the populations with ages of < 40 Myr and 100~400 Myr, respectively. The cold gas is most likely to be associated with the young stellar populations. Then the stellar feedback of the young populations could influence the warm gas. The age difference between the populations which show the correlations indicates the time delay of the stellar feedback.

[포 GC-12] Optical follow-up observation of three binary black hole merger events with the KMTNet.

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After the first identification of electromagnetic counterpart of gravitational wave source (GW170817), era of multi-messenger astronomy has begun. For specifying coordinate, magnitude, and host galaxy information, optical follow-up observation of GW source becomes important. The O3 run of LIGO / VIRGO started after April 2019. We present searching strategy of GW optical counterpart using the KMTNet. By performing tiling observation of high probability area in GW localization map, we expect to observe early light-curve of GW optical counterpart. We will also present observation result for three gravitational wave events of binary black hole mergers. After identification of optical counterpart, we will study collision mechanism, progenitor, and characteristics of host galaxy using observation data of GW source.

[포 GC-13] Gravitational-wave EM Counterpart Korean Observatory (GECKO): Network of Telescopes and Follow-up Result for S190425z

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Recent observation of the neutron star merger event, GW170817, through both gravitational wave (GW) and electromagnetic wave (EM) observations opened a new way of exploring the universe, namely, multi-messenger astronomy (MMA). One of the keys to the success of MMA is a rapid identification of EM counterpart.

We will introduce the strategy for prioritization of GW source host galaxy candidates. Our method relies on recent simulation results regarding plausible properties of GW source host galaxies and the low latency localization map from LIGO/Virgo. We will show the test results for both NS merger and BH merger events using previous events and describe observing strategy with our facilities for GW events during the ongoing LIGO/Virgo O3 run. Finally, we report the result of follow-up observation on, the first neutron star merger event, S190425z, during LIGO/VIrgo O3 run.

[포 GC-14] Intracluster Light Study of the Distant Galaxy Cluster SPT2106-5844 at z=1.132 with Hubble Space Telescope Infrared Imaging Data

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