

들을 선별하여 표준패러다임(뉴턴역학과 암흑물질)과 MOND 하에서 속도분산 윤곽에 대한 모델링을 수행하였다. 속도분산 anisotropy에 대한 parametric 모형을 가정하고 다음의 결과를 얻었다. (1) anisotropy가 속도분산 윤곽에 큰 영향을 준다는 것을 확인하였고, (2) 전체적으로 표준패러다임과 MOND 중 어느 패러다임이 관측된 속도분산 윤곽에 더 잘 부합하는지 결론을 도출하기가 어려웠고, (3) 은하 개별적으로는 표준패러다임 하에서 요구되는 암흑물질의 양이 달랐고, 선호되는 MOND 모형에서도 미세한 차이가 나타나는 것으로 보였다. 이 결과는 anisotropy에 대한 더 나은 이해를 바탕으로 개선될 수 있을 것이다.

[포 GC-26] Cosmic Web traced by ELGs and LRGs from the Multidark Simulation

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Current and planned large-volume surveys such as the Sloan Digital Sky Survey extended Baryon Oscillation Spectroscopic Survey (SDSS IV-eBOSS) or the Dark Energy Spectroscopic Instrument (DESI) will use Luminous Red Galaxies (LRGs) and Emission Line Galaxies (ELGs) to map the cosmic web up to $z \sim 1.7$, and will allow one to accurately constrain cosmological models and obtain crucial information on the nature of dark energy and the expansion history of the Universe in novel epochs - particularly by measuring the Baryon Acoustic Oscillation (BAO) feature with improved accuracy. To this end, we present here a study of the spatial distribution and clustering of a sample of LRGs and ELGs obtained from a sub-volume of the MultiDark simulation complemented by different semi-analytic prescriptions, and investigate how these two different populations trace the cosmic web at different redshift intervals - along with their synergy. This is the first step towards the interpretation of upcoming ELG and LRG data.

[포 GC-27] Properties of High- and Low-Redshift Quasars from the extended Baryon Oscillation Spectroscopic Survey

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The SDSS-IV extended Baryon Oscillation Spectroscopic (eBOSS) will provide new photometry and spectroscopy of an unprecedented number of quasars in a novel redshift range, along with some re-observations of SDSS DR12 objects. We present here an observational study of the geometry,

spatial distribution, luminosity function, and clustering of a sample of low- and high- z quasars obtained from the first SDSS-IV data release (DR13). In particular, we characterize the amount of overlapping between different data releases, and then focus on the synergy among high- and low- z quasars as tracers of the cosmic web, particularly considering their cross-correlations and cosmological implications.

성간물질

[포 IM-01] Kinematics of the Envelope and Two Bipolar Jets in L1157

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A massive envelope and a strong bipolar outflow are the two most distinct structures of youngest protostellar systems. We present observational results from the Combined Array for Research in Millimeter-wave Astronomy (CARMA) toward the youngest (Class 0) protostellar system L1157. At an angular resolution of 5 arcseconds, we mapped its well-developed outflow in CO 2-1 over a span of approximately 5 arcminutes. Additionally, we imaged the central envelope with CO isotopes, CS, CN, and N₂H⁺ with an angular resolution of about 2 arcseconds. We show that the bipolar outflow may be represented with a two jet model and constrain its physical properties such as precession/rotation directions, velocities, inclinations, and position angles via cube data fitting. In addition, we discuss the kinematic features of the envelope detected in CO isotopes and N₂H⁺ and present the radius-dependent dust opacity spectral index.

[포 IM-02] The Propagation of Cosmic Ray in Protoplanetary Disks

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