

in view of circumbinary planet, furthermore, we suggest that opposite angular orientation of the planet is relative to the stability of orbits. In here, counter-rotation case is relatively more faster than co-rotation case for being stable. As a result, we find that various initial conditions and thresholds to approach dynamical stability and instability with unexpected isolated islands over enormous parameter space. Even, superkeplerian effect of binary is important to habitability of the exoplanet and we can verify that superfaster binary doesn't effect on the planet and increases survivability of planet around the binary.

적외선 영상분광 탐사미션과 활용연구

[구 NS-01] An exosolar planetary system N -body simulInfrared Spectro-Photometric Survey in Space: NISS and SPHEREx Missions

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The NISS (Near-infrared Imaging Spectrometer for Star formation history) onboard NEXTSat-1 have successfully developed by KASI. The capability of both imaging and spectroscopy is a unique function of the NISS. At first, it have realized the low-resolution spectroscopy ($R \sim 20$) with a wide field of view of 2×2 deg. in a wide near-infrared range from 0.95 to $2.5 \mu\text{m}$. The major scientific mission is to study the cosmic star formation history in local and distant universe. It will also demonstrate the space technologies related to the infrared spectro-photometry in space. Now, the NISS is ready to launch in late 2018. After the launch, the NISS will be operated during 2 years.

As an extension of the NISS, the SPHEREx

(Spectro-Photometer for the History of the Universe Epoch of Reionization, and Ices Explorer) is the NASA MIDEX (Medium-class Explorer) mission proposed together with KASI (PI Institute: Caltech). It will perform the first all-sky infrared spectro-photometric survey to probe the origin of our Universe, to explore the origin and evolution of galaxies, and to explore whether planets around other stars could harbor life. Compared to the NISS, the SPHEREx is designed to have much more wide FoV of 3.5×11.3 deg. as well as wide spectral range from 0.75 to $5.0 \mu\text{m}$. After passing the first selection process, the SPHEREx is under the Phase-A study. The final selection will be made in the end of 2018. Here, we report the status of the NISS and SPHEREx missions.

[구 NS-02] Extragalactic Science I

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In this talk, we will review extragalactic science cases with NISS and SPHEREx. With its capability to perform a low resolution spectroscopy over a wide area, NISS and SPHEREx can provide valuable information about the evolution of spectral shapes of galaxies in different environments over cosmic history. This talk will focus on the cases for the studies that are closely related to the galaxy evolution and formation.

[구 NS-03] Extragalactic Science with SPHEREx II

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SPHEREx is a proposed MIDEX mission, planned to conduct spectral imaging survey to cover 0.75-5 μm with a spectral resolution of $R \sim 40-135$. We will briefly overview the uniqueness of SPHEREx data, and how Korean community can take advantage of it. We will present extragalactic science cases that can be addressed with SPHEREx dataset. In particular, SPHEREx survey will uniquely provide the variability information of bright QSOs, both in continuum and fluxes of emission lines, which enables us to investigate the central structures of QSOs through the reverberation mapping method. SPHEREx will also allow us to understand how supermassive black holes and host galaxies