

database system to process astronomical time-series data. Our experiments include ingesting, indexing, and querying millions or billions of astronomical time-series measurements. We choose our KMTNet data and the public VVV (VISTA Variables in the Via Lactea) catalogs as test data. We discuss issues in using these NoSQL database systems in astronomy.

[포 AT-05] Standard calibration for H- α filter of DOAO 1m telescope

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In this poster, we present standard calibration processes and results for photometry of H- α filter using broadband filters. We took data from a night in stable weather condition. And we derived parameters for band pass calibration including color terms. The corrected photometry results from broadband filters like V and R filters showed high correlation enough to replace instrumental H- α magnitude. We plan to extend these standardizing processes to another narrowband filters and flux calibration of narrowband filters from photometry of PNe.

[포 AT-06] KMAG payload instrument of Korea Pathfinder Lunar Orbiter

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Korea Pathfinder Lunar Orbiter (KPLLO) is a first Korean Lunar exploration mission. KPLLO is equipped with four payloads in Korea and one payload in United States. KMAG is one of Korean payloads to measure the Moon's magnetic field. Moon has a no dipole magnetic field such as earth's global magnetic field. But there are many curious crustal magnetic anomalies. these features still do not well understood. This is a main scientific objective of KMAG payload and the study of space environment around moon is a second objective.

KMAG has three magnetometers which are mounted in the edge of the 1.2 meter boom. This paper shows a KMAG's requirements, instrument description, and a preliminary function test results.

천연화학/천연생물학

[포 AA-01] The D/H ratio of N₂H⁺ in the inner envelope of YSOs

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Recent interferometric observations toward embedded protostellar systems show a clear offset between the emission peaks of N₂D⁺ and N₂H⁺. However, the chemical model that considers solely freeze-out and desorption from the dust grains could not reproduce the observations. This difference between two species in the depletion zone might be caused by the reduction of the deuterated molecules, due to the reactions on grain surfaces. We present that the abundance offset between N₂H⁺ and N₂D⁺ can be explained if the chemical model includes the surface chemistry, especially for the deuterated