environments, after light-curve shape and color or extinction corrections. Our results are then compared to previous studies, and show consistent results.

[포GC-22] Big Data Astronomy : Let's "PySpark" the Universe (빅데이터 천문학 : PySpark를 이용한 천문자료 분석)

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The modern large-scale surveys and state-of-the-art cosmological simulations produce various kinds of big data composed of millions and billions of galaxies.

Inevitably, we need to adopt modern Big Data platforms to properly handle such large-scale data sets.

In my talk, I will briefly introduce the de facto standard of modern Big Data platform, Apache Spark, and present some examples to demonstrate how Apache Spark can be utilized for solving data-driven astronomical problems.

항성/항성계/외계행성

[포SA-01] High Resolution Spectroscopic Monitoring of Symbiotic Stars AG Draconis and UV Aurigae

Soo Hyun Kim[1], Tae Seog Yoon[1], Hyung-il Oh[1]
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보현산 천문대 1.8m 망원경과 고분산 에셀 분광기 BOES(BOao Echelle Spectrograph)를 이용한 공생별 AG Draconis와 UV Aurigae의 분광학적 특성을 파악한다. 중성수소 Balmer 선과 주요 원소에 의한 방출선들의 특징과 변화를 살펴보며, 두 별의 활동성 및 등급에 따른 Balmer 선의 변화 양상에 대해 알아보고자 한다.

[포SA-02] A comparison study between the AESOPUS Low Temperature Opacity and that of Ferguson, on Standard Stellar Models and Isochrones

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A comparison study between two low temperature opacity tables has been conducted. The opacity is the one of the major input physics in stellar model construction. Opacity is generally provided in a tabular form and as a function of 3 parameters, ie, density, temperature and chemical composition. Among available opacity tables, it has been common practice to utilize OPAL opacity table (Iglesias & Rogers, 1996) augmented with Ferguson opacity table (Ferguson et al. 2005) for the low temperature domain. For low temperature domain, another table, AESOPUS (Marigo & Aringer, 2009), has been announced in 2007. Reportedly, this opacity covers even lower temperature region, and is compatible with that of Ferguson in the overlapping temperature domain. To test the compatibility, stellar models and isochrones for various ranges in mass, metallicity and chemical composition, have been constructed. It is confirmed that there is no significant difference in the stellar models and isochrones constructed with the two different low temperature opacities. Therefore, in the construction of stellar models and isochrones, Ferguson low temperature opacity can be replaced with the AESOPUS opacity. The wider range in the temperature and chemical mixtures, and the easier accessibility make AESOPUS favorable in practical purpose.

[포SA-03] Stellar Wind Accretion and Raman O VI Spectroscopy of the Symbiotic Star AG Draconis

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High resolution spectroscopy of the yellow symbiotic star AG Draconis is performed with the Canada-France-Hawaii Telescope to analyse the line profiles of Raman scattered O VI broad emission features at 6825 Å and 7082 Å with a view to investigating the wind accretion process from the mass losing giant to the white dwarf.

These two spectral features are formed through inelastic scattering of O VIλλ1032 and 1038 with atomic hydrogen.

We find that these features exhibit double-component profiles with red parts stronger than blue ones with the velocity separation of ~ 60 km s−1 in the O VI velocity space.

Monte Carlo simulations for O VI line radiative transfer are performed by assuming that the O VI emission region constitutes a part of the accretion flow around the white dwarf and that Raman O VI features are formed in the neutral part of the slow stellar wind from the giant companion.

The overall Raman O VI profiles are reasonably fit with an azimuthally asymmetric accretion flow and the mass loss rate ~ 4 × 10^{−7} M_sun yr^{−