

[POST-11] High Resolution Spectroscopy of Raman Scattered He II 6545 and Mass Loss Processes in the Young Planetary Nebula NGC 6790

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We present the high resolution spectra of the young planetary nebula NGC 6790 obtained with the BOES. From the spectra we found the broad emission feature around 6545Å, which is formed via Raman scattering of He II 1025 in the neutral region. This is the fourth planetary nebula known to exhibit Raman scattered He II feature after NGC 7027, NGC 6302 and IC 5117. We perform Monte Carlo calculations incorporating He II recombination theory and adopting an expanding H I region that is delineated by a cylindrical shell. From our simulated profiles the expansion velocity of the H I region is determined to be 19 km s⁻¹ with a significant covering factor and HI column density of 1020 cm⁻². It is noted that our best fit profiles show clear deficits in both red and blue parts of the feature, which may hint that the kinematics in the emission region and sightline effects should be taken into more carefully.

[POST-12] 중금속함량이 낮은 거성의 중성자 포획 원소 함량

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BOES의 echelle 고분산 분광기로 관측한 12개의 적색거성에 대하여 MOOG와 kurucz모델을 사용하여 각각의 적색거성 대기모형을 결정하였다. 12개의 적색거성에 대한 [Fe/H], α 원소, 그리고 중성자 포획과정 원소의 함량을 구하였다. 우리은하의 구상성단과 외부은하와의 원소함량 비교를 통하여 12개 적색거성의 항성 종족을 연구하였다.