[포GC-23] Asymmetric Absorption Profile of Damped Lyman Alpha and Beta Systems

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Due to the quantum interference of many atomic levels, the exact scattering cross section around a given resonance transition deviates from the Lorentz function when the frequency of the incident radiation is quite far from the resonance frequency. This atomic effect is quite significant in the case of damped Ly alpha systems, where HI column density is in excess of 10^20 cm^-2. In this poster, we present the deviation quantitatively taking into consideration of the Rayleigh and Raman scattering around Lyman alpha and Lyman beta.

[포GC-24] Type-Ia Supernova in M101: Latest Results

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SN 2011fe (also known as PTF 11kly) is a Type-1a supernova that appeared in M101, 2011 August. Being only 6.4 Mpc away, this supernova has been intensively observed by various facilities in the world. We monitored this supernova in UBVRI, grizY, and ZYJHK-bands using SNUO, LOAO, SOAO, CQUEAN/McDonald, UKIRT telescopes, and small telescopes in Korea and Mongolia. The monitoring observation is still ongoing, and the light curve has been accumulated over a year. We present the results of the long-term monitoring observation, together with a light-curve fitting result. We will also discuss our findings in terms of the usefulness of Type-Ia supernovae as a distance indicator.