

[표IM-09] A study of Interstellar Extinction toward NGC6475 and IC2391 based on High-Resolution UVES Spectra.

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We have derived interstellar column densities of Ti, Na and Ca toward NGC 6745 and IC 2391 using high-resolution UVES(Ultraviolet and Visual Echelle Spectrograph Paranal Observatory Project) spectra. Interstellar lines of Ti, Na and Ca are easily identified by their sharpness and their wavelength shifts in the early B type stars of NGC 6745 and IC 2391. Derived column densities are examined to find the correlations with color excesses of stars toward each cluster and to find the any variation of them within each cluster.

[표IM-10] Infrared Spectrum of the Methyl Cation CH₃⁺ in the 7 m region

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Molecular ions may play a significant role in interstellar chemistry. The molecular ions are abundant in any astronomical objects with high degree of ionization as exemplified by the strong H₃⁺ emission spectrum in Jovian atmosphere. The methyl cation CH₃⁺ has been one of the central subjects in our search due to its fundamental role in carbo-ion chemistry. An extensive search for the bending vibrations of CH₃⁺ in the laboratory plasma has revealed a rich spectrum from 1503.054 to 1297.683 cm⁻¹. Much effort and time have been spent on the analysis CH₃⁺, the result of which will be discussed in detail at the meeting. The observation of carbo-ions in laboratory will also be helpful for understanding of chemistry in many astronomical objects such as Jupiter's ionosphere which has high plasma activity and great abundance of CH₄.