IR SPECTRAL CLASSIFICATION OF NORMAL STARS

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With ISO(Infrared Space Observatory) SWS(Short Wavelength Spectrometer) spectra, we intend to establish the classification scheme for A0~M8 stars in the infrared wavelength region. ISO SWS data of 45 stars have been reduced for this work. Spectra of stars earlier than the Sun are mainly dominated by atomic lines, especially by brackette, pfund, humphrey series of hydrogen. We found that Pf θ, Pf ι, Pf κ, Pf λ, Pf μ, Pf ν, Pf ξ, Pf o, Pf π, Pf ρ (2.40μm~2.67μm), Hu θ (4.02μm) and Hu ε (4.67μm) absorption features are pressure-sensitive infrared spectral lines, which distinguish supergiant from dwarf. Spectra of late type stars are mainly dominated by molecules such as CO, OH, H2O, CO2. Although ISO SWS data cover from 2.35μm to 45.2μm, the classification scheme is restricted to the shorter wavelength region because of the quick drops of the stellar brightness, the lack of molecular and atomic line lists, and the unknown circumstellar contribution in the longer wavelength region.