FOURIER TRANSFORM EMISSION SPECTROSCOPY OF THE $B^2\Sigma^+$–$X^2\Sigma^+$ (VIOLET) SYSTEM OF $^{13}C^{14}N$

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Emission spectra of the $B^2\Sigma^+$–$X^2\Sigma^+$ transition of $^{13}C^{14}N$ have been observed at high resolution using the Fourier transform spectrometer associated with the McMath-Pierce Solar Telescope of the National Solar Observatory. The spectra have been measured in the 21000–30000 cm^{-1} region and a total of 52 vibrational bands involving vibrational levels up to $v = 15$ of the ground and excited states have been rotationally analyzed to provide a much improved set of spectroscopic constants. The results of the present analysis should prove useful in the identification of additional $^{13}C^{14}N$ lines in comets and cool stars, and will help in the determination of the $^{12}C/^{13}C$ abundance ratio.

The observation of a number of highly-excited vibrational bands of the $A^2\Pi$–$X^2\Sigma^+$ transition as well as a few bands of the $B^2\Sigma^+$–$A^2\Pi$ transition will also be reported.