

## The Excitation of CS in the Comet Hyakutake

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We analyzed the A-X(0-0) band of CS appeared in a spectrum of comet Hyakutake (C/1996 B2). We prepared the spectrum from the HST archive. The most prominent band among the vibrational bands of the CS A-X system is the 0-0 band at 2577 Å. An analysis of this band may provide information on collisional processes of the inner region of the coma. The spectrum was obtained on the 1st of April, 1996. The exposure time was 1150 seconds. The heliocentric and geocentric distances were 0.886 AU and 0.25 AU, respectively. According to the FOS Instrument handbook, the spectral resolution using FOS/RD, G270H grating, and aperture 1 (0.86" circular) is 4.6 Å (FWHM) for a uniform source. Dust continuum in the spectrum has been removed by using a synthetic solar continuum with the same spectral resolution. We attempted to construct a band model which includes fluorescence processes initiated by solar ultraviolet pumpings, and electron and neutral collisional excitations. We compare the model spectra with the observed spectrum. The model fitting was used for an investigation of the collisional effect by changing electron density. We also calculated the CS production rate for comet Hyakutake. We will present comparisons between model and observation.