

## Observations, Assignments and Profiles of SiC<sub>2</sub> Absorption and Emission Bands in Carbon Stars

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Although observed in the blue-green spectra of some carbon stars as long ago as 1926, the Merrill-Sanford bands were not identified as arising from SiC<sub>2</sub> until 1956. In 1984 it was recognized that the molecule is not linear like C<sub>3</sub>, but has an unusual T-shape. Following recent laboratory work, extensive SiC<sub>2</sub> absorption spectra of a number of stars, including W Pic, RV TrA, and T Mus, have been assigned for the first time. Hot bands involving low-frequency vibrations are generally very strong in typical N-type spectra but were greatly weakened in T Mus for a time in 1994, indicating that the bands were then formed in a much cooler region than those typical of carbon-star photospheres. Of particular interest is the spectrum of IRAS 12311–3509, where SiC<sub>2</sub> bands appear in emission, possibly indicating an edge-on disk.

These results are discussed more fully in *ApJ* 471, L107, 1996.