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Title: HIGH, ROOM AND LOW-TEMPERATURE PHOTOABSORPTION
CROSS-SECTIONS OF CS₂ IN THE 1800-2300-ANGSTROM REGION

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Abstract: Using synchrotron radiation as a continuum light source, we have measured the absolute photoabsorption cross sections of CS₂ with a spectral bandwidth (FWHM) of 0.8 Angstrom. The absorption cross sections of CS₂ have been measured from 1800 to 2300 Angstrom at temperatures of 383 and 295 K and from 1800 to 2150 Angstrom at 203 K. Significant temperature effects and hot bands are observed, particularly in the long wavelength region. The apparent continuum cross section underlying the vibrational features in the 2200-2300 Angstrom region increases by about an order of magnitude when the gaseous CS₂ temperature increases from 295 K to 383 K. The new temperature-dependent laboratory cross section data should be useful in the determination of the CS₂ abundance in Jupiter's atmosphere after the impact of Comet Shoemaker-Levy 9.

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