The Spectrum of Sirius from 307 to 1040 nm

Ingemar Furenlid and Tor Westin

*Georgia State University, Atlanta, Georgia 30303, USA*

Robert L. Kurucz

*Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, Massachusetts 02138, USA*

We have combined a Kitt Peak Coudé-feed UV photographic spectrum taken by Kurucz, visible Reticon spectra from La Serena taken by Furenlid, and a near-IR 4 m-FTS spectrum taken by Kurucz to produce a high resolution, high-signal-to-noise atlas of Sirius. The continuum level and the wavelength scale were determined by comparison to a computed spectrum that includes the atmospheric transmission spectrum. The atlas is plotted at several scales on loose 11 x 17 inch sheets. The sheets at the highest scale include the computed spectrum, and line identifications for the Sirius and telluric features. Both 0 km/s and 16 km/s rotation spectra are plotted to emphasize the blending. The complete line list used in the calculation will be available as a computer file. A printed line list will be included for lines that are labelled. In this atlas the computed spectrum has not been adjusted to match the observed spectrum.

The atlas will be printed on demand by Kurucz and will cost $100,- plus shipping if sent outside North America. If we can obtain a color laser printer, we will make a $200 version with color-coded Sirius spectrum, 0 km/s computed spectrum, 16 km/s computed spectrum, transmission spectrum, transmitted spectrum, and the line indentifications. We will produce a CD-ROM with the spectrum and the line data.

This is an ongoing project of studying the bright stars to test the model atmosphere and spectrum synthesis programs and to test the atomic data. We will produce a complete abundance analysis and we will improve considerably the computed spectrum. In its present form the atlas provides a useful guide for observing and interpreting the spectra of A stars.

Practical matters: The atlas is not yet ready. Kurucz has to determine some O₂ and water wavelengths and the correct shift between the Sirius and telluric spectrum for each Reticon scan. The earliest possible date for completion is the end of 1994. Inquire by email to

Kurucz@cfa.harvard.edu

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