The Light Elements and Their Evolution
IAU Symposium, Vol. 198, *2000*
L. da Silva, M. Spite, J. R. de Medeiros, eds.

FUSE Spectra of Sk 80, an O7 Supergiant in the Small Magellanic Cloud

R. C. Iping, G. Sonneborn

NASA/GSFC, Code 681, Greenbelt, MD 20771

D. Massa

NASA/GSFC and Raytheon ITSS

A. W. Fullerton

Johns Hopkins Univ., Baltimore, MD 21218 and Univ. of Victoria

J. B. Hutchings

National Research Council of Canada

and the FUSE Science Team

Abstract. We present far-UV spectra (910-1190Å) of Sk 80, an O7 supergiant in the Small Magellanic Cloud, observed by the FUSE satellite during its In-Orbit Checkout phase. The spectra reveal many interstellar absorption lines, including H_2, and O VI, and several key stellar wind features.

1. Observations and Results

The FUSE satellite was launched in June 1999 and is described by Sonneborn et al. (this volume). Sk 80 (=AV 232, spectral type O7 Iaf) was observed by FUSE in September and October 1999. The FUSE spectra of SK 80 cover the full wavelength range of the FUSE instrument. The stellar wind lines present in the FUV spectrum of Sk 80 include S VI 933-944, C III 977, N III 990, S IV 1062-1073, and P V 1118-1128. Interstellar absorption lines are present from Milky Way gas as well as from the SMC. Species detected include HI, NI, OI, C II, CIII, Fe II, Ar I, P II, SiII, O VI, and H_2. The H I Lyman series is present up to Ly-8 923.15 Å before overlapping of higher series lines obliterates discernable features. Molecular hydrogen is very strong in the spectrum of Sk 80. The FUSE spectra of Sk 80 are shown in Fig. 1

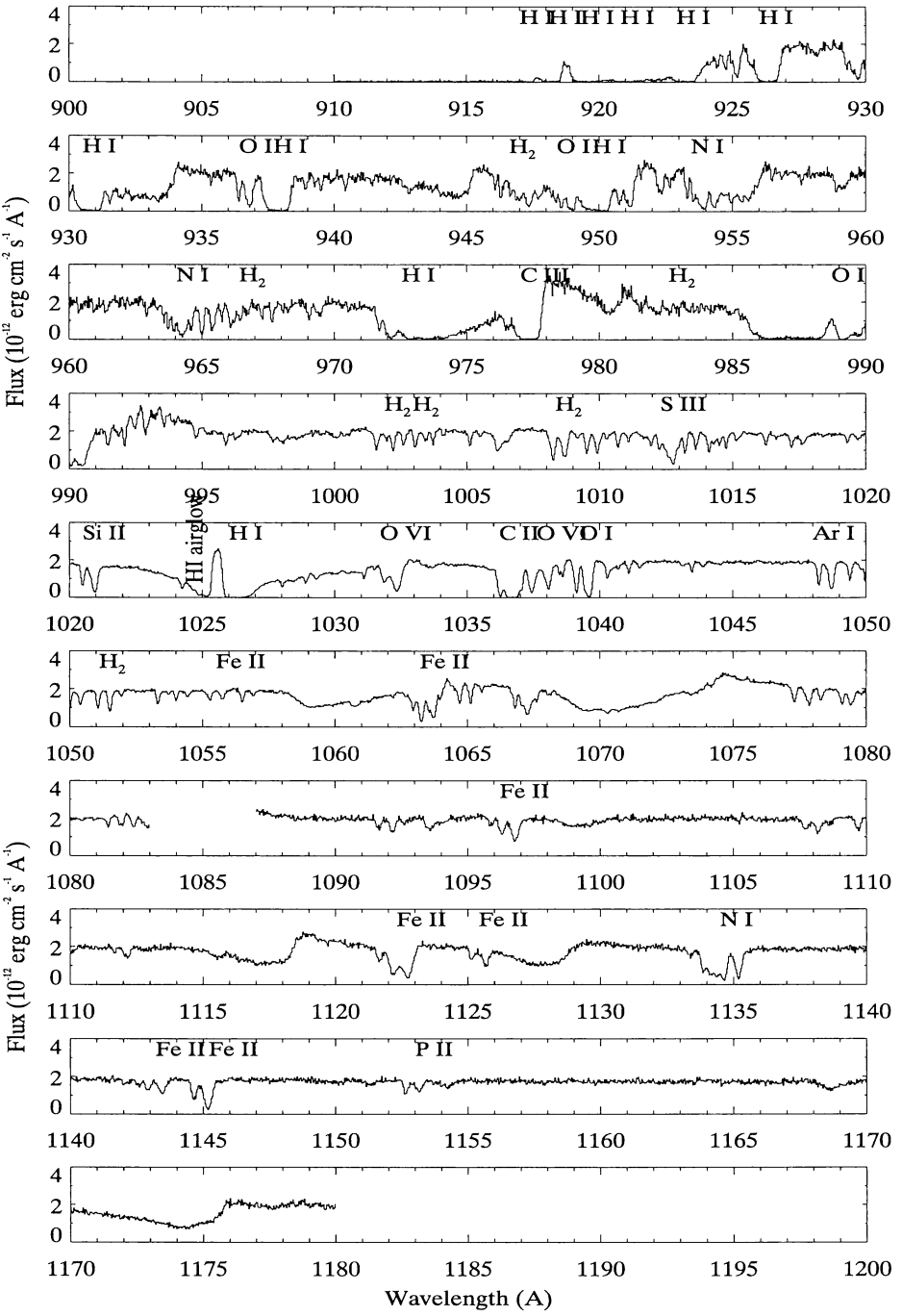

Figure 1. FUSE spectra of Sk 80. Some of the principal interstellar lines are indicated.

https://doi.org/10.1017/S0074180900166653 Published online by Cambridge University Press