

should be included. The black-body disk temperature of Jupiter then becomes $28900^\circ \pm 2700^\circ$ K.

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October 21, 1965

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SPECTROGRAPHIC OBSERVATIONS OF COMET IKEYA-SEKI (1965f)

Spectra of the "sun-grazer" comet Ikeya-Seki (1965f) have been secured at Haute Provence Observatory by astronomers from Lyon (M. Bloch), Liège (C. Arpigny, F. Dossin), and Marseille (M. Bretz).

The dispersions used are as follows: (a) at the prism spectrograph of the 120-cm telescope: 76 Å/mm at H γ , 235 Å/mm near λ 5893; (b) at the grating spectrograph of the 193-cm telescope (see Fehrenbach 1960): 40 Å/mm (Camera II) and 4 Å/mm (Camera V).

On October 13, one low-dispersion and one medium-dispersion spectrogram show the Na D-lines and the C₂ Swan bands superimposed on a weak continuum. CN is absent, although the plates have been correctly exposed in the region of the violet (0,0) band.

On October 21 (10:00–11:00 U.T.) spectra obtained with the prism spectrograph show Na I, Ca II, and Fe I emissions, as well as a very weak reflection continuum. Between 13:00 and 14:00 U.T. on the same date a pair of 10-sec exposures (on IIa-O and on 103a-F plates) covering the spectral range from λ 3580 to λ 6055 Å at 4 Å/mm shows about eighty very sharp emission lines, mostly of neutral iron. A section of the IIa-O plate is reproduced in Figure 1.

The H- and K-emissions, like the Na D-lines are rather long, their total extension being more than 2' and about 50", respectively. On the other hand, the iron lines are rather short (less than 15").

The following multiplets of Fe I have been identified (the numbers in parentheses indicate the numbers of observed lines of each multiplet): 2(1), 4(11), 5(6), 15(5), 20(8), 21(12), 23(5), 36(1), 37(3), 41(4), 42(3), 43(6), 45(4), and possibly 68(1), 321(1). In addition, the presence of Ca I is indicated by the λ 4226.728 line, that of Ni I by the λ 3619.392 line. Mn I ($\lambda\lambda$ 4034.490 and 4082.944) and Al I (λ 3961.523) are probably also present.

The presence of the iron lines, which were observed visually in Comet 1882 II by Copeland and Lohse (for a discussion of the identification of these lines, see Swings 1956 and Greenstein and Arpigny 1962), is thus confirmed. The other metals mentioned above, the presence of which in comets has been discussed by Greenstein and Arpigny (1962), had never been observed before.

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November 1, 1965

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