no obvious dip corresponding to the Hartley band of ozone. It, therefore, appeared that less than one or two per cent of the total ozone lay above this altitude. The envelope of the preliminary intensity distribution fell progressively below the 6000°K black body curve to shorter wave lengths, and at 2200 Å the departure was at least a factor of ten.

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van Albada, G. B. An improved analysis of complex stellar spectra.

The accurate analysis of intermediate and late type spectra is very much hampered by the serious blending. Trials to separate the different components of a blend usually introduce large systematic errors. New errors occur in the discussion of the curve of growth. Many different spectral parameters are to be deduced from this curve and an error in the adopted value of one of them will change the results for all others.

In order to avoid these systematic errors, a method has been adopted at the Astronomical Institute of the University of Amsterdam which reverses the usual order of the analysis. It begins with the calculation of theoretical equivalent widths of entire blends for a number of model atmospheres, taking into account the true line profile and instrumental broadening. A method of differential correction is used to determine the equivalent widths as a function of the physical parameters of the atmosphere, if these are slightly different from the values originally adopted. Comparison of the observed equivalent widths with the calculated ones gives a set of linear equations, from which it is possible to calculate the most probable values of the physical parameters by the method of least squares.

The advantages of the method are:

1. It does justice to the accuracy of the measures.
2. Systematic errors are avoided.
3. The calculation gives the complete correlation between the different parameters and if a correction to one of them is needed, the corresponding changes in the others are immediately apparent.

The amount of work necessary for the calculation of a theoretical spectrum is large, but one calculation can be used for a whole set of more

or less similar spectra. The final calculations by the method of least squares are comparatively straightforward and easy.

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van Dien, Elsa. Stark-effect of the higher Balmer lines.

Computations have been carried through to obtain the profiles of the higher Balmer lines, especially to find the point where the lines merge into the continuum. The location of this point to the red side of the Balmer limit depends largely on pressure or surface-gravity, and to a smaller extent on the surface-temperature.

It was assumed that the lines are broadened by static Stark-effect, the probability-distribution $W(\beta)$ of which has been given by Holtsmark¹ and by Verwey.² As a simplification Dr. Pannekoek suggested to consider the lines spread out into a continuous band of width $\Delta\lambda$ equal to the distance of the outer Stark components, rather than to consider the large number of components separately.

The intensity of such bands is proportional to f —the oscillator strength—to $W(\beta)$ and to $1/\Delta\lambda$. By mechanical integration the absorption coefficients in their dependence on pressure and temperature were computed between $\lambda = 3660$ and $\lambda = 3750$. The f -values of Menzel and Pekeris³ were utilized. Then Eddington's equations for transfer of radiation were applied to compute the spectral energy distribution for a purely H atmosphere. The continuous absorption coefficients as given by Pannekoek⁴ were used.

The computations were carried through for surface temperatures 10080°, 12600° and 16800° ($5040/T = 0.5, 0.4, 0.3$ respectively) and at each of those for log gravity 2, 4, 6, 8. The computed disappearance of the discrete line-spectrum is given below.

log g	Values for 5040/ T		
	0.50	0.40	0.30
2	3671	3675	3675
4	3683	3691	3696
6	3697	3728	3735
8		>3750	>3750

The results have been compared with microphotometer tracings made by Yü at the Lick Observatory of a number of A stars, the temperatures of which had been carefully determined. Application of the mass-luminosity relation as given by Russell and Moore⁶ yielded all quanti-