INFORMES DE TRABAJO

A FAST TELECENTRIC SPECTROGRAPH

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The anastigmatic solutions of a system of mirrors with a concave primary and a convex secondary are known. One of them projects an image in the infinite of an object in the infinite with the curves of the mirrors being two conforcal paraboloids (1).

Any reflector with a parabolic primary can therefore obtain a parallel anastigmatic beam of any arbitrary diameter if we modify the secondary. The author has used this solutions on a telescope with three mirrors (2), and intends now to convert the telescope into the giant collimator of a spectrograph which in this way is reduced to a camera and the dispersing element. This system works like an objective prism on the changed scale of the sky of a Meinel camera, but if a field stop of an adequate size is introduced, spectra of individual stars or of groups of stars can be obtained as desired. A general scheme of the system is shown in Fig. 1.

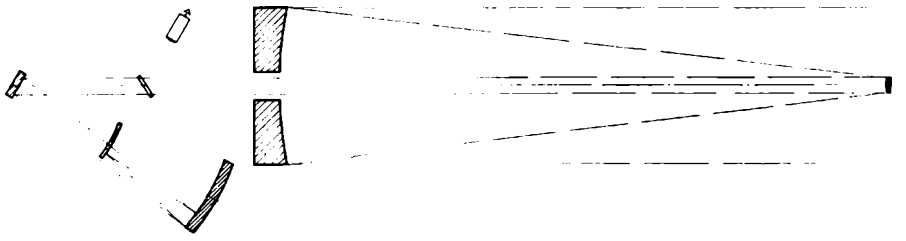

Fig. 1

The advantages of this system are its great luminosity and range as well as the simplicity of the spectrograph which make it an ideal instrument to study problems of stellar classification with medium and small dispersions. The inconveniences are: 1-) The dispersion is limited by the quality of the stellar image.

2-) Radial velocities can not be determined with great precision.

The guiding is done by means of a circular ring which uses part of the beam or a tilted plate which reflects part of it. If a Schmidt system is used as a camera the correcting lens can be inserted in front of the grating or the secondary mirror of the telescope can be given a special figuring.

An example is given for a telescope with a diameter of D_1 centimetres, a camera with a focal length of 0,4 metres, a collimator with a diameter of 0,3 metres, a projected slit of 0,000 02 metres and a grating of 600 groves/mm.

D_1 = 150 cm h" = 2" (Slit width on focal plane of telescope)

D_2 = 300 cm h" = 1"

Dispersión: 40 Å /mm.

References

(1) E.H. Linfoot, Recent Advances in Optics, (Oxford The Clarendon Press), 276, (1955).
(2) J. Landi Dessy, Pub. A.S.P., 75. 66 (1963).

CRITERIOS DE METALIZACION EN CLASIFICACION ESPECTRAL

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Definiendo el grado de metalización en base a la presencia e intensidad de líneas de metales pesados (La II, etc.) se trata de dar una idea de la misma en la clasificación espectral agregando un supraíndice a la luminosidad de la estrella.

De esta manera un K0V puede subdividirse en varios grupos y análogamente los otros tipos tardíos.

The author tries to give an idea in the spectral classification of a star, of the degree of metallicity based on the presence and the intensity of heavy metal lines (La II, etc.) by adding a greek letter as a superscript to the luminosity of the star.