

Major reasons for studying the inner corona (apart from its intrinsic astrophysical interest) are that it probably holds the key to a detailed understanding of the solar (and stellar) winds, and because it controls the immediate environment of the Earth in space. It is therefore pertinent to review here briefly what is needed. First, we want to know in more detail the temperature structure of the inner corona. We have seen that an average model for the low corona in active regions, quiet regions and holes is emerging from the EUV data. However, the height in the corona where the temperature reaches a maximum is not known and is difficult to determine. Further it is now clear that the temperature of the inner corona is not homogeneous. We have seen that there is indirect evidence that the corona varies from SGCs to SGBs. The ATM experiment has the resolution to throw much light on this problem. Finally, we require the deposition of energy by waves, as a function of height in the inner corona. Here we have to rely heavily on theory, but much progress has been made on the problem of the energy balance – at least in the transition region and low corona (Athay, 1971).

WORKING GROUP ON THE HIGH-RESOLUTION ATLAS
OF THE PHOTOSPHERIC SPECTRUM

Tables of wavelengths and identifications covering the domain $\lambda 7498$ – $\lambda 12016$ have been published recently (Swensson *et al.*, 1970). Based on the Atlas published in 1963 by L. Delbouille and G. Roland, this work lists 10840 lines, and gives identifications for a large fraction of them. A high-resolution, low-noise atlas of the photospheric spectrum between 3000 and 10000 Å has been announced by Delbouille, Roland and Neven. The observations have been made from the high-altitude station of the Jungfrauoch (Switzerland), to minimize the water-vapour absorption. The section $\lambda 4300$ – $\lambda 6200$ will be distributed first, and the subscribers will receive shorter and longer wavelength tracings with the work progressing.

A preliminary atlas, designed to supplement the above-mentioned work, is also in preparation at Kitt Peak National Observatory. The complete spectrum has been run for $\cos \nu = 1.0$, and about 40% has been completed for $\cos \nu = 0.2$. At the request of stellar observers, selected portions of the integrated solar spectrum have been observed.

The photographic wavelength program ($\lambda 2950$ – $\lambda 10000$), started by A. K. Pierce in 1967, is nearly complete; it should be finished by the end of 1973. The necessary standard wavelengths, against which the solar values are measured, are given by a thorium source, in overlapping orders. Unblended lines are measured by hand on the plates and reduced by computer. Approximately 10 spectra are combined into each wavelength measurement, and the internal accuracy is about 0.5 mÅ for many lines. The photoelectric part of the same program, with computer simulation of the blended profiles to resolve them, has just started.

L. DELBOUILLE

Chairman of the Working Group

WORKING GROUP ON SUNSPOT SPECTRA

Several sets of observational data on sunspots exist:

- (1) the photographic observations of R. Michard at Pic-du-Midi and Meudon on three spots covering the total range $\lambda \lambda 4900$ – 6450 ;
- (2) the photoelectric tracings of H. Wöhl $\lambda \lambda 4000$ – 8000 obtained at Locarno for three large umbras;
- (3) a photographic map with Babinet compensator of one large spot covering the interval $\lambda \lambda 3800$ – 9200 by J. Harvey at Kitt Peak;
- (4) the thesis work of D. Hall giving photoelectric tracings from Kitt Peak in the atmospheric windows between 1 and 5.5 μm ;

(5) photographic observations of a spot in the ranges $\lambda\lambda 5725\text{--}5840$ and $\lambda\lambda 6610\text{--}6770$ obtained by O. Engvold at Oslo.

Item (2) is available on magnetic tape; (3) is soon to be published on a roll of print paper 100 m long; the first part of item (4), 1 to $2.5\ \mu\text{m}$, has been prepared as an atlas and is in press – future work by Hall will make available the atlas' extension to $12\ \mu\text{m}$.

The large amount of work on the identification of molecular lines and species will only be quoted by two references from which many other references can be found:

'On Molecules in Sunspots', H. Wöhl, *Solar Phys.* **16**, 362, 1971.

'Table of Solar Diatomic Molecular Lines Spectral Range $4900\text{--}6441\ \text{\AA}$ ', P. Sotirovski, *Astron. and Astrophys. Suppl. Ser.* **6**, 85, 1972.

A. KEITH PIERCE

Chairman of the Working Group

WORKING GROUP ON SOLAR ECLIPSES

The total solar eclipse of July 10, 1972, was observed by several parties and it is expected that reports on the observations will be given during the 1973 IAU General Assembly. All information required was provided by Dr V. Gaizauskas and other Canadian colleagues and distributed to interested persons.

Much work has been done in view of the difficulties the observing groups in Africa will have to overcome before, during, and after the eclipse of June 30, 1973. The National Science Foundation has published a Solar Eclipse 1973 Bulletin, as it did for the eclipse of March 7, 1970. The N.S.F. co-ordinator, Dr Ronald R. La Count, has distributed the bulletin widely, reporting on site inspections, meteorological forecasts, general information, relevant data and details on the circumstances of the eclipse.

The joint efforts of Dr E. R. Dyer, Jr., secretary of the IUCSTP, Dr Ronald R. LaCount, Prof. C. de Jager, and those of the Working Group have led, among other things, to the organization and scientific programs connected with the 1973 eclipse. Two meetings were held during the 15th and 16th Annual Meetings of COSPAR in Seattle and Madrid, and a third during the first IAU Regional meeting in Athens. African authorities invited by the General Secretary of the IAU attended the Madrid meeting and promised assistance to observing parties and help for the general organization.

According to a resolution of the Working Group on Solar Eclipses, the Chairman asked the General Secretary to propose a member of the group as a representative to COSPAR. Dr J. Houtgast, former chairman of the Group, has been appointed.

M. RIGUTTI

Chairman of the Working Group

REFERENCES

Legend

AA	Astronomy & Astrophys.
AiA	Astrometriya i Astrophysica
AJ	Astrophys. Journal
AL	Astrophysics Letters
AMZ	Astr. mitt Zürich
AO	Applied Optics
ARAA	Ann. Rev. Astron. Astrophys.
ASHSN	Actes Soc. Helv. Sci. Nat.
AT	Astron. Tsirk
ATAO	Ann. Tokyo Astron. Obs.
AZ	Astron. Zhurn. Akad. Nauk S.S.S.R.

BAC	Bull. Astron. Inst. Czechoslovakia
BAAS	Bull. American Astron. Soc.
BAOM	Bol. Astron. Obs. Madrid
GGV	Geod. Geophys. Viroff
IKAO	Izv. Krimskoj Astrofiz Obs.
IAU	IAU Symposium
JASWA	J. Astron. Soc. Western Australia
JGR	J. Geophys. Research
JQSRT	J. Quant. Spectrosc. Radiat. Transfer
MAG	Mitt. Astron. Ges.
MN	Mon. Not. Roy. Astr. Soc.
MSRSL	Mem. Soc. Roy. Sciences de Liège