

WORKING GROUP ON MAGNETOGRAPH CALIBRATION

The working group convened during the Paris IAU Symposium on Solar Magnetic Fields. It was decided that the comparison of magnetograms obtained at different observatories should proceed in two stages. First a pilot program was to be run including only observatories in the southwestern United States (Mt. Wilson, Kitt Peak, High Altitude Observatory and Sacramento Peak); based on the experience of this pilot program a second stage was to be planned to include all observatories. The magnetograph parameters were defined and it was decided to use both the $\lambda 5250$ and $\lambda 6303$ lines. The pilot program was run in October 1970; observations were obtained only at Kitt Peak and Mt. Wilson. Comparison showed almost a factor of 2 difference in the field measurements between these two observatories. Since then this factor has been brought closer to unity by improved calibration methods. The full second stage was run in October 1972. The table below shows a comparison between weak magnetic field amplitudes for October 21, 1971 for all observatories which obtained data in this period. The $\lambda 5250$ observations are in exceptionally good agreement, deviations being less than $\pm 25\%$ from the mean. The $\lambda 6303$ observations disagree greatly, however. Many prominent observatories with magnetographs were unable to take part because of cloud conditions. A second global attempt undertaken jointly with the CINOF campaign in June 1972, also failed to include these observatories.

Continuation of the program will be considered at the Sydney General Assembly.

Table 1. Scaling factors for weak magnetic fields ($H < 350$ G). Kitt Peak $\lambda 5250$ observations on October 21, 1971, are taken as unit values

Observatory	Julian Date ^a (2441240 +)	Line	Scaling Factor
Kitt Peak	6.24	$\lambda 5250$	1.00
Kitt Peak	5.25	$\lambda 5250$	0.81
Sac. Peak	6.09	$\lambda 5250$	1.32
Mt. Wilson	6.37	$\lambda 5250$	0.83
Irkutsk	5.76	$\lambda 5250$	1.08
Capri	5.79	$\lambda 5250$	1.12
Meudon	6.06	$\lambda 5250$	1.16
Sac. Peak	6.11	$\lambda 6303$	1.66
Capri	5.89	$\lambda 6303$	0.73
Kitt Peak	6.19	$\lambda 5233$	1.62
Kitt Peak	6.27	$\lambda 5253$	1.58

^a October 21, 1971 0^h00^m UT = 2441245.50 Julian Date

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Chairman of the Working Group

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SOLAR RADIO ASTRONOMY*

D. J. McLean

General

The English translation of Zheleznyakov's comprehensive book *Radio Emission of the Sun and Planets* appeared in 1970. A new review of 'the radio emission from travelling disturbances in the corona - type III, type II and moving type IV bursts...' has recently been published (Wild and Smerd, 1972). A review of the earlier data from the Culgoora radioheliograph will be found in Wild (1970).

Publications which have not been included individually in the references but which are of general interest can be found in the proceedings of the conferences of the Committee of European Solar Radio Astronomers (CESRA) (editors Fokker, Abrami) and *Physics of the Solar Corona* (editor Macris, 1971). The latter includes a review of space radio-astronomy observations by Papagiannis (1971).

Spectrograph observations

Spectrograph observations up to kilometre wavelengths are discussed under space radio astronomy.

Radio spectrograph observations continue to bear fruit. At decimetre wavelengths using a highly sensitive, differentiating spectrograph Slottje (1972) has observed a great variety of micro structures during a type IV event, and Rosenberg (1972) has attempted to explain some of them. The occurrence of striking examples of a previously known phenomenon - regular pulsations in type IV events - has stimulated theoretical interest (Rosenberg 1970; McLean *et al.*, 1971; Abrami 1970, 1972) and the publication of more observational data (Gotwols, 1972; Kai, 1973; Caroubalos *et al.* 1973).

At metre wavelengths Markeev and Chernov (1970) have also seen unusual bursts and Tarnstrom and Phillips (1972) have made a high-resolution study of what they call spike bursts.

Boischoit *et al.* (1971) have studied the discontinuity in storm activity at about the boundary between

* This note was received too late to be included in the final Commission Report.