

Publikasjoner fra
DET NORSKE INSTITUTT FOR KOSMISK FYSIKK
Nr. 49

GURO GJELLESTAD and HELGE DALSEIDE

THE MAGNETIC STATION AT DOMBÅS

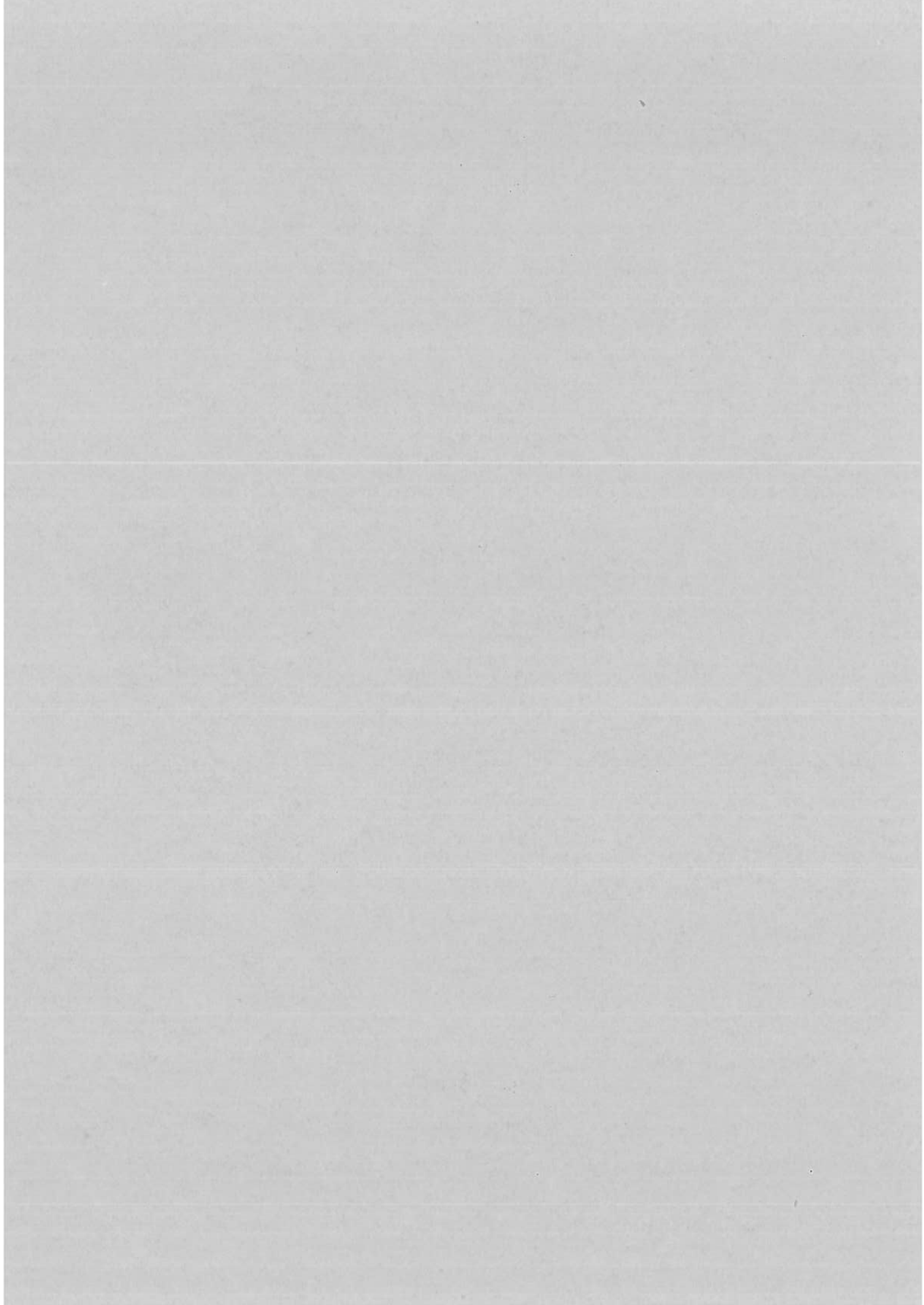
($\varphi = 62^{\circ}04'.4\text{N}$, $\lambda = 9^{\circ}07'.0\text{E Gr.}$)

OBSERVATIONS 1958

Published by
MAGNETISK BYRÅ
BERGEN, NORWAY

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INTRODUCTORY REMARKS

We refer to No. 39 of this series, Chap. I, in which has been given general information on instruments and installations at the station, evaluation of the performance of the instruments and accuracy of observations.

At Dombås Mr. *Knut Einbu* supervised the instruments and made magnetic measurements, while author I during an inspection in September/October made several series of control measurements in *H* and *Z*. Scalings of the magnetograms for hourly mean values were undertaken by author II with the assistance of Messrs. *N. Tarlebø* and *J. Njåstad*. In charge of reductions of recordings and observations and arrangement of the results for publication was author I.

Several series of *scale value determinations* were made in all elements. The values obtained for *D* and *Z* were in good agreement with the determinations made in 1957, so also for *H* until October 2 when the scale value for *H* changed from 9.15 γ/mm to 8.85 γ/mm . The adopted scale values based on the observations are given in *Table 1*. In *Table 1* the scale value 9.60 γ/mm (for *D*) is equivalent to 2.4 minutes of arc per mm.

Temperature corrections and *shrinking* of the photographic paper are negligible.

Absolute measurements were undertaken at regular intervals in *H* and *Z*, but in *D* absolute values were obtained only five times (in February, June, October and November). Instruments used for absolute measurements in 1958 were *Elliott 38* for *Declination*, *QHM 15* and *78* for *Horizontal Intensity* and *BMZ16* and *160* for *Vertical Intensity*. In *Tables 2–4* are given adopted base line values, while the diagram in *Figure 1* gives both observed and adopted base line values. The adopted base line values have, in accordance with usual procedure, been established by a graphical method, some personal judgement being employed. In the diagram large dots represent points of greater weight than the average, while open circles represent points of less weight.

In the following are given *Tables of absolute hourly mean values* in three elements, *D*, *H* and *Z* and *daily* and *hourly means* for all days and for the 5 international quiet and disturbed

TABLE 1
ADOPTED SCALE VALUES 1958

Interval starting	Interval ending	D γ/mm	H γ/mm	Z γ/mm
Jan 1	Oct 1	9.60	9.15	6.45
Oct 2	Dec 31	«	8.85	«

days. In a separate Table are given *monthly* and *annual means* for all days and for the 5 international quiet and disturbed days. Scalings of magnetograms for hourly mean values have been centered around half-hours, and Universal Time (GMT) has been used consistently in the Tables. Calculations and printing of magnetic tables have been performed on punched-card IBM machines in co-operation with the Geophysical Institute of the University of Bergen.

Magnetisk Byrå and the magnetic station at *Dombås* co-operate with the international central institute at *De Bilt* and with the Committee on Rapid Variations and Earth Currents of IAGA regarding K-indices and C-data for activity, sudden commencements, solar flare effects etc., and for those data we refer to the IAGA Bulletin.

MONTHLY AND ANNUAL MEANS

1958	All days			Quiet days			Disturbed days		
	D	H	Z	D	H	Z	D	H	Z
Jan	4°48'.7 W	13926 γ	47664 γ	4°49'.3 W	13928 γ	47663 γ	4°46'.6 W	13906 γ	47658 γ
Feb	47.6	923	666	49.2	933	665	43.7	895	674
Mar	47.4	922	670	48.3	925	661	44.9	908	668
Apr	47.3	926	665	48.1	937	665	46.8	912	657
May	47.7	939	661	47.8	945	659	48.7	945	676
Jun	46.5	923	670	47.6	942	670	43.4	876	677
Jul	46.7	929	681	46.4	934	681	47.2	904	682
Aug	46.5	929	676	47.6	935	679	44.7	905	660
Sep	45.7	923	688	46.3	933	679	45.0	903	698
Oct	44.9	929	686	46.0	939	681	42.2	904	690
Nov	46.1	943	699	46.1	943	697	46.4	945	694
Dec	44.6	935	704	45.4	941	700	42.1	914	692
Mean	4°46'.6 W	13929 γ	47678 γ	4°47'.3 W	13936 γ	47675 γ	4°45'.1 W	13910 γ	47677 γ

TABLE 2
ADOPTED BASE LINE VALUE
DECLINATION 1958

Jan 1	—	Dec 31	4°53'8
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TABLE 3
ADOPTED BASE LINE VALUES
HORIZONTAL INTENSITY 1958

Interval starting	Interval starting
Jan 1 13582 γ	Aug 28 13577 γ
Feb 15 581	Sep 6 578
Mar 17 580	15 579
Apr 1 579	26 584
May 16 578	Oct 2 770
Jun 1 577	4 781
17 576	Nov 9 763
Jul 10 575	15 748
Aug 19 13576 γ	Dec 7 13747 γ

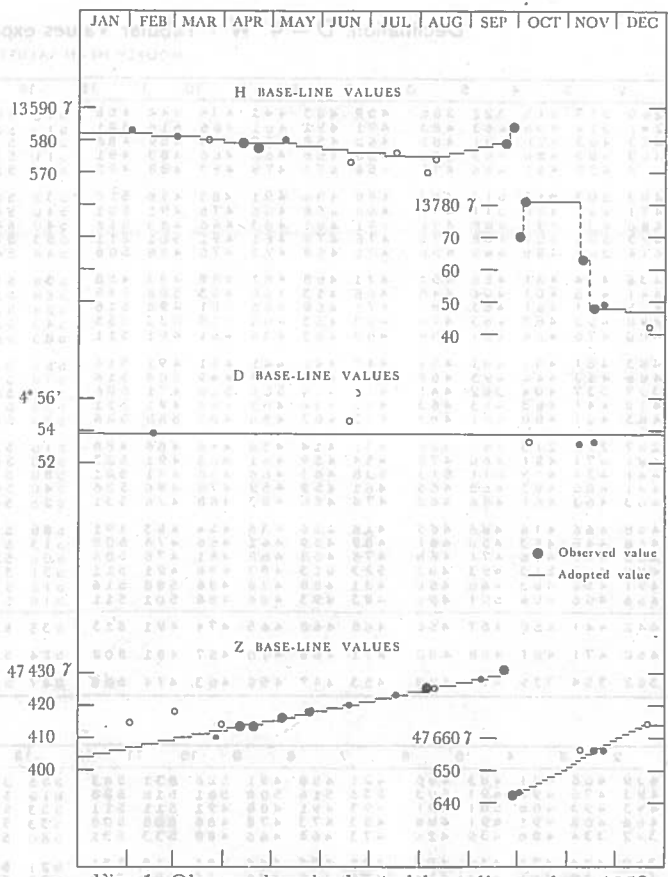


Fig. 1. Observed and adopted base-line values 1958.

TABLE 4
ADOPTED BASE LINE VALUES
VERTICAL INTENSITY 1958

Interval starting	Interval starting	Interval starting	Interval starting	Interval starting
Jan 1 47404 γ	Apr 15 47414 γ	Jul 25 47424 γ	Oct 9 47645 γ	Nov 13 47655 γ
11 405	26 415	Aug 4 425	13 646	17 656
21 406	May 6 416	14 426	17 647	20 657
31 407	16 417	24 427	20 648	24 658
Feb 10 408	26 418	Sep 3 428	25 649	28 659
20 409	Jun 5 419	13 429	29 650	Dec 2 660
Mar 2 410	15 420	21 430	Nov 1 651	6 661
13 411	25 421	25 642	4 652	10 662
24 412	Jul 5 422	Oct 1 643	7 653	14 663
Apr 4 47413 γ	15 47423 γ	5 47644 γ	10 47654 γ	18 47664 γ

Dombås

Declination. D = 4° W + Tabular Values expressed in Tenths of Minutes.

JANUARY 1958

HOURLY MEAN VALUES.

GMT

Table for January 1958 showing hourly mean values for declination. Columns include Day, Hour (1-23), and Mean. Rows are grouped by day (1-31) and month (M, MQ, MD).

FEBRUARY

Table for February 1958 showing hourly mean values for declination. Columns include Day, Hour (1-23), and Mean. Rows are grouped by day (1-28) and month (M, MQ, MD).

MARCH

Table for March 1958 showing hourly mean values for declination. Columns include Day, Hour (1-23), and Mean. Rows are grouped by day (1-31) and month (M, MQ, MD).

Dombås

Declination. D = 4° W + Tabular Values expressed in Tenths of Minutes.

APRIL 1958

HOURLY MEAN VALUES.

GMT

Table for April 1958 showing hourly mean values for Dombås. Columns include Day (1-30), Hour (1-24), and Mean. Rows are grouped by day (1-30) and include sub-rows for M, MQ, MD.

MAY

Table for May 1958 showing hourly mean values for Dombås. Columns include Day (1-31), Hour (1-24), and Mean. Rows are grouped by day (1-31) and include sub-rows for M, MQ, MD.

JUNE

Table for June 1958 showing hourly mean values for Dombås. Columns include Day (1-30), Hour (1-24), and Mean. Rows are grouped by day (1-30) and include sub-rows for M, MQ, MD.

Dombås

Declination. D = 4° W + Tabular Values expressed in Tenths of Minutes.

ASTRONOMICAL

JULY 1958

HOURLY MEAN VALUES.

GMT

Table for July 1958 showing hourly mean values for Dombås. Columns include DAY (1-31) and MEAN. Rows are grouped by month (Q, D, I, M) and day of month.

AUGUST

Table for August 1958 showing hourly mean values for Dombås. Columns include DAY (1-31) and MEAN. Rows are grouped by month (Q, D, I, M) and day of month.

SEPTEMBER

Table for September 1958 showing hourly mean values for Dombås. Columns include DAY (1-30) and MEAN. Rows are grouped by month (Q, D, I, M) and day of month.

Dombås

Declination, D = 4° W + Tabular Values expressed in Tenths of Minutes.

HOURLY MEAN VALUES



GMT

OCTOBER 1958

Table for October 1958 showing hourly mean values for days 1 through 31. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-31) and month (M, MQ, MD).

NOVEMBER

Table for November showing hourly mean values for days 1 through 30. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-30) and month (M, MQ, MD).

DECEMBER

Table for December showing hourly mean values for days 1 through 31. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-31) and month (M, MQ, MD).

Dombás

Horizontal Intensity. H = 13000 γ + Tabular Values.

JANUARY 1958

HOURLY MEAN VALUES.

GMT

Table for January 1958 showing hourly mean values for days 1 through 31. Columns include Day, Hour, and Intensity values. Summary rows M, MQ, MD are at the bottom.

FEBRUARY

Table for February 1958 showing hourly mean values for days 1 through 28. Columns include Day, Hour, and Intensity values. Summary rows M, MQ, MD are at the bottom.

MARCH

Table for March 1958 showing hourly mean values for days 1 through 31. Columns include Day, Hour, and Intensity values. Summary rows M, MQ, MD are at the bottom.

Dombás

Horizontal Intensity. H = 13000 γ + Tabular Values.

APRIL 1958

HOURLY MEAN VALUES.

GMT

Table for April 1958 showing hourly mean values for Dombás. Columns include Day (1-30), hours (1-24), and Mean. Rows are labeled with day numbers and letters (D, Q, M, MD).

MAY

Table for May 1958 showing hourly mean values for Dombás. Columns include Day (1-31), hours (1-24), and Mean. Rows are labeled with day numbers and letters (D, Q, M, MD).

JUNE

Table for June 1958 showing hourly mean values for Dombás. Columns include Day (1-30), hours (1-24), and Mean. Rows are labeled with day numbers and letters (D, Q, M, MD).

Dombás

Horizontal Intensity. H = 13000 γ + Tabular Values.

edmoC

OCTOBER 1958

HOURLY MEAN VALUES.

GMT

Table with columns DAY, 1-28, MEAN and rows for days 1-31 and months M, MO, MD.

NOVEMBER

Table with columns DAY, 1-28, MEAN and rows for days 1-30 and months M, MQ, MD.

DECEMBER

Table with columns DAY, 1-28, MEAN and rows for days 1-31 and months M, MQ, MD.

Dombås

Vertical Intensity. Z = 47000 γ + Tabular Values.

GMT

JANUARY 1958

HOURLY MEAN VALUES.

Table for January 1958 showing hourly mean values for days 0 to 31. Columns include DAY, 1-23, and MEAN. Rows include D 0-5, 6-10, 11-15, 16-20, 21-25, 26-31, M, MQ, MD.

FEBRUARY

Table for February showing hourly mean values for days 1 to 28. Columns include DAY, 1-23, and MEAN. Rows include D 1-5, 6-10, 11-15, 16-20, 21-25, 26-28, M, MQ, MD.

MARCH

Table for March showing hourly mean values for days 0 to 31. Columns include DAY, 1-23, and MEAN. Rows include D 0-5, 6-10, 11-15, 16-20, 21-25, 26-31, M, MQ, MD.

Dombás

Vertical Intensity, Z = 47000 γ + Tabular Values.

adamoQ

APRIL 1958 HOURLY MEAN VALUES. GMT

Table for April 1958 showing hourly mean values for vertical intensity. Columns include DAY, 1-28, and MEAN. Rows include D 1-15, Q 10-15, D 16-20, Q 21-25, D 26-30, M, MQ, MD.

MAY

Table for May 1958 showing hourly mean values for vertical intensity. Columns include DAY, 1-28, and MEAN. Rows include D 1-5, Q 6-10, D 11-15, Q 16-20, D 21-25, Q 26-30, M, MQ, MD.

JUNE

Table for June 1958 showing hourly mean values for vertical intensity. Columns include DAY, 1-28, and MEAN. Rows include D 1-5, Q 6-10, D 11-15, Q 16-20, D 21-25, Q 26-30, M, MQ, MD.

Dombás

Vertical Intensity. Z = 47000 γ + Tabular Values.

GMT

JULY 1958

HOURLY MEAN VALUES.

Table for July 1958 showing hourly mean values for vertical intensity. Columns include DAY (1-31), hours (1-24), and MEAN. Rows are grouped by day and include sub-rows for specific hours.

AUGUST

Table for August 1958 showing hourly mean values for vertical intensity. Columns include DAY (1-31), hours (1-24), and MEAN. Rows are grouped by day and include sub-rows for specific hours.

SEPTEMBER

Table for September 1958 showing hourly mean values for vertical intensity. Columns include DAY (1-30), hours (1-24), and MEAN. Rows are grouped by day and include sub-rows for specific hours.

Dombås

Vertical Intensity. Z = 47000 γ + Tabular Values.

OCTOBER 1958

HOURLY MEAN VALUES.

GMT

Table for October 1958 showing hourly mean values for vertical intensity. Columns represent days (1-31) and hours (1-24). Rows are grouped by day (1-31) and include sub-rows for hours (e.g., 1, 2, 3, 4, 5). Values range from approximately 641 to 728.

NOVEMBER

Table for November 1958 showing hourly mean values for vertical intensity. Columns represent days (1-31) and hours (1-24). Rows are grouped by day (1-31) and include sub-rows for hours (e.g., 1, 2, 3, 4, 5). Values range from approximately 641 to 728.

DECEMBER

Table for December 1958 showing hourly mean values for vertical intensity. Columns represent days (1-31) and hours (1-24). Rows are grouped by day (1-31) and include sub-rows for hours (e.g., 1, 2, 3, 4, 5). Values range from approximately 641 to 728.

