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DET NORSKE INSTITUTT FOR KOSMISK FYSIKK
Nr. 48

GURO GJELLESTAD and HELGE DALSEIDE

THE MAGNETIC STATION AT DOMBÅS

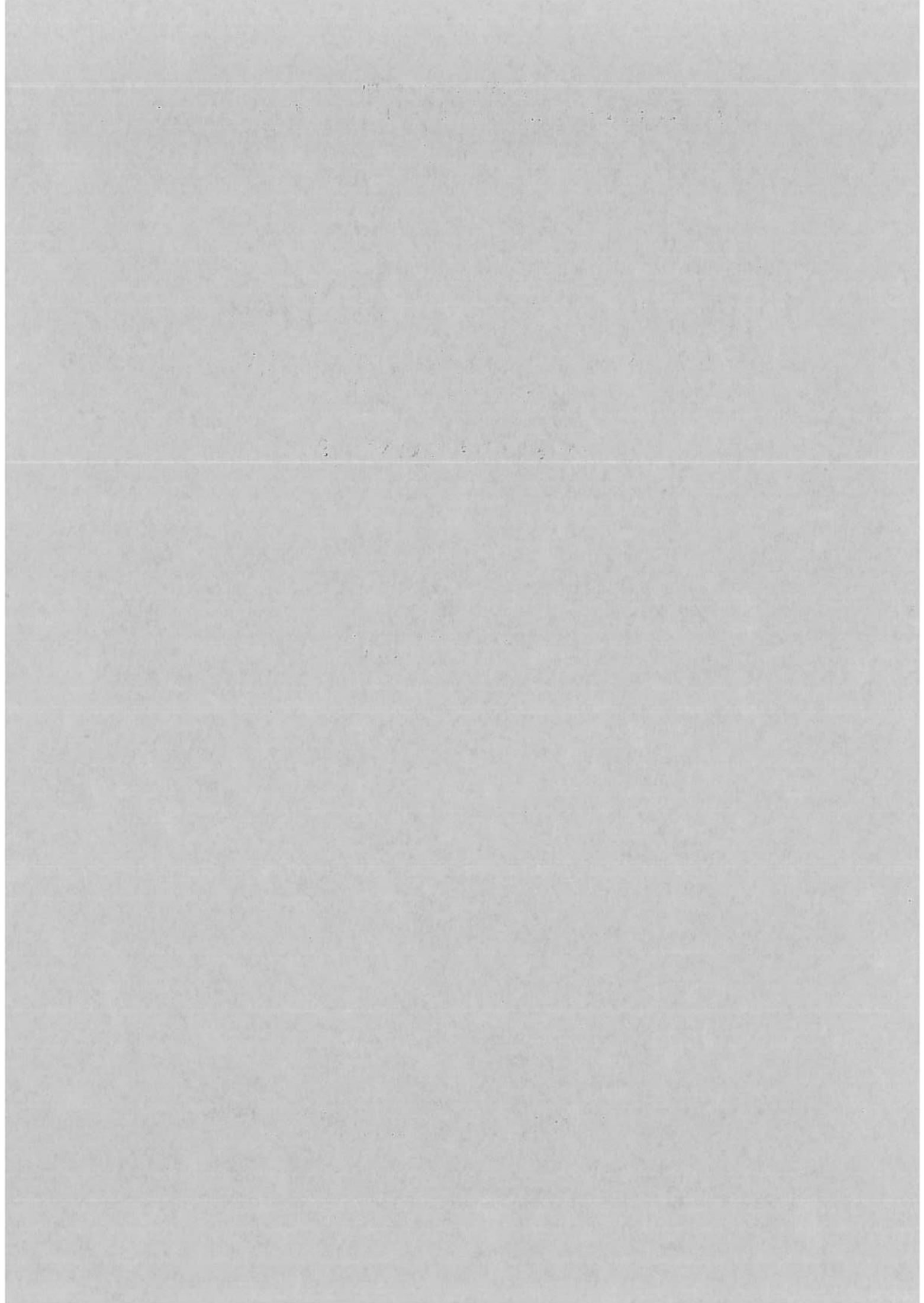
($\varphi = 62^{\circ} 04'.4$ N, $\lambda = 9^{\circ} 07'.0$ E Gr.)

OBSERVATIONS 1957

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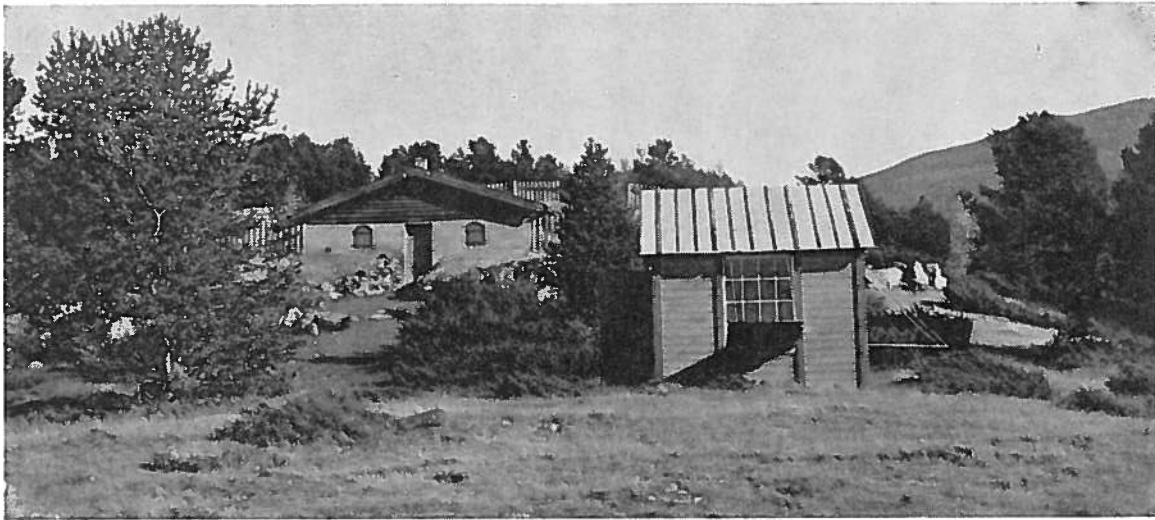
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INTRODUCTORY REMARKS

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. Scalings of the magnetograms for hourly mean values were undertaken by author II with the assistance of Mr. *N. Tarlebø*. In charge of reductions of recordings and observations and arrangement of the results for publication was author I.

Several series of *scale value determinations* in the three elements confirmed the results from the last 5 months of 1956, and the adopted scale values based on the observations are given in *Table 1*. In *Table 1* the scale value $9.60 \gamma/\text{mm}$ (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 seven times (in January, May, June and October). Instruments used for absolute measurements in 1957 were *Elliott 38* for *Declination*, *QHM 15* and *78* for *Horizontal Intensity* and *BMZ 16* 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 1957

D γ/mm	H γ/mm	Z γ/mm
9.60	9.15	6.45

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

1957	All days			Quiet days			Disturbed days		
	D	H	Z	D	H	Z	D	H	Z
Jan	4°52'.9 W	13911 γ	47641 γ	4°53'.9 W	13922 γ	47633 γ	4°52'.5 W	13888 γ	47643 γ
Feb	51.6	906	645	52.3	915	644	49.2	879	640
Mar	51.1	905	648	51.4	905	660	48.9	883	633
Apr	51.1	911	648	51.6	920	653	50.3	895	646
May	52.2	928	633	52.0	932	635	52.2	922	631
Jun	51.7	931	631	52.1	934	634	51.0	923	625
Jul	50.7	925	642	51.6	930	639	48.5	892	650
Aug	51.0	925	633	51.4	928	634	50.4	916	630
Sep	48.8	893	663	49.8	916	656	44.1	839	655
Oct	49.3	918	657	50.5	926	653	48.1	902	660
Nov	48.7	918	658	49.9	932	654	46.0	901	653
Dec	48.8	924	662	49.2	929	660	47.2	913	658
Mean	4°50'.6 W	13916 γ	47647 γ	4°51'.3 W	13924 γ	47646 γ	4°49'.0 W	13896 γ	47644 γ

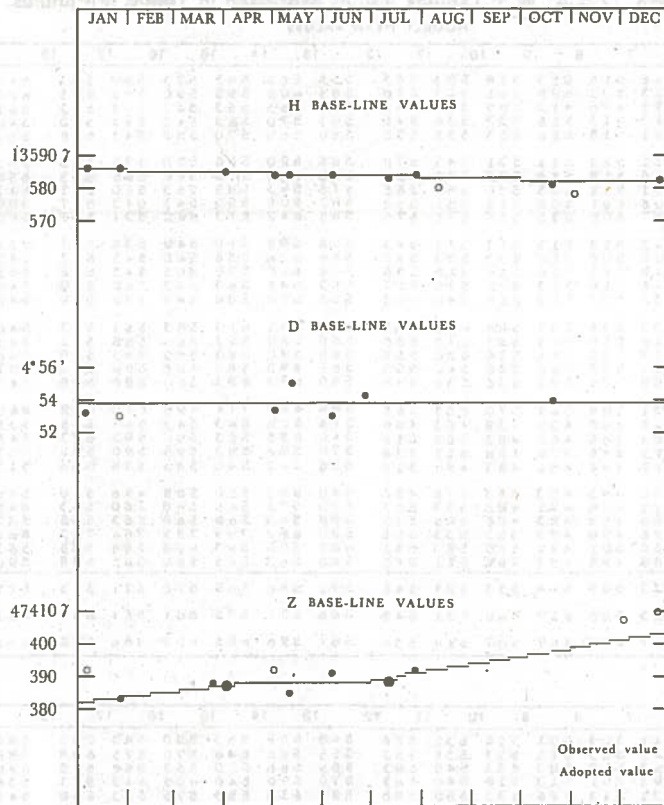


Fig. 1. Observed and adopted base-line values 1957.

TABLE 2
ADOPTED BASE LINE VALUE
DECLINATION 1957

Jan 1	—	Dec 31	4°53'.8
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TABLE 3
ADOPTED BASE LINE VALUES
HORIZONTAL INTENSITY 1957

Interval starting	Interval starting
Jan 1 13586 γ	Aug 1 13583 γ
Feb 1 585	Oct 1 13582 γ
May 1 13584 γ	

TABLE 4
ADOPTED BASE LINE VALUES
VERTICAL INTENSITY 1957

Interval starting	Interval starting
Jan 1 47382 γ	Aug 17 47393 γ
11 383	30 394
28 384	Sep 12 395
Feb 15 385	24 396
Mar 5 386	Oct 6 397
23 387	19 398
Apr 8 388	Nov 1 399
Jul 1 389	13 400
17 390	25 401
22 391	Dec 7 402
Aug 4 47392 γ	20 47403 γ

Dombås

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

JANUARY 1957

HOURLY MEAN VALUES.

GMT

Table for January 1957 showing hourly mean values for Dombås. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-31) and include summary rows M, MQ, MD.

FEBRUARY

Table for February 1957 showing hourly mean values for Dombås. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-28) and include summary rows M, MQ, MD.

MARCH

Table for March 1957 showing hourly mean values for Dombås. Columns include Day, Hour (1-24), and Mean. Rows are grouped by day (1-31) and include summary rows M, MQ, MD.

Dombås

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

APRIL 1957

HOURLY MEAN VALUES.

GMT

Table for April 1957 showing hourly mean values for Dombås. Columns include Day, Hour (1-28), and Mean. Rows are grouped by day (1-30) and month (M, MQ, MD).

MAY

Table for May showing hourly mean values for Dombås. Columns include Day, Hour (1-28), and Mean. Rows are grouped by day (1-31) and month (M, MQ, MD).

JUNE

Table for June showing hourly mean values for Dombås. Columns include Day, Hour (1-28), and Mean. Rows are grouped by day (1-30) and month (M, MQ, MD).

Dombås

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

JULY 1957

HOURLY MEAN VALUES.

GMT

Table for July 1957 showing hourly mean values for Dombås. Columns include DAY, 1-28, and MEAN. Rows are labeled with day numbers (01-31) and month initials (M, MQ, MD).

AUGUST

Table for August 1957 showing hourly mean values for Dombås. Columns include DAY, 1-28, and MEAN. Rows are labeled with day numbers (01-31) and month initials (M, MQ, MD).

SEPTEMBER

Table for September 1957 showing hourly mean values for Dombås. Columns include DAY, 1-28, and MEAN. Rows are labeled with day numbers (01-30) and month initials (M, MQ, MD).

Dombås

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

Table for October 1957 showing hourly mean values for various months (U, Q, D, O, M, MQ, MD) and a mean column. Columns include DAY, 1-28, and MEAN.

NOVEMBER

Table for November showing hourly mean values for various months (U, Q, D, O, M, MQ, MD) and a mean column. Columns include DAY, 1-28, and MEAN.

DECEMBER

Table for December showing hourly mean values for various months (U, Q, D, O, M, MQ, MD) and a mean column. Columns include DAY, 1-28, and MEAN.

Dombás

Horizontal Intensity. H = 13000 γ + Tabular Values.

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APRIL 1957

HOURLY MEAN VALUES.

GMT

Table for APRIL 1957 showing hourly mean values for horizontal intensity. Columns include DAY (1-30), hours (1-24), and MEAN. Rows include daily data (D), monthly data (M, MQ, MD), and specific day data (0, 1-15, 16-20, 21-30).

MAY

Table for MAY 1957 showing hourly mean values for horizontal intensity. Columns include DAY (1-31), hours (1-24), and MEAN. Rows include daily data (D), monthly data (M, MQ, MD), and specific day data (0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-31).

JUNE

Table for JUNE 1957 showing hourly mean values for horizontal intensity. Columns include DAY (1-30), hours (1-24), and MEAN. Rows include daily data (D), monthly data (M, MQ, MD), and specific day data (0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30).

Dombås

Horizontal Intensity. H = 13000 γ + Tabular Values.

Table for July 1957 showing hourly mean values and mean for days 1 to 25. Columns include Day, Hourly Mean Values (1-24), and Mean. Rows include D 1, D 2, D 3, D 4, D 5, D 6, D 7, D 8, D 9, D 10, D 11, D 12, D 13, D 14, D 15, D 16, D 17, D 18, D 19, D 20, D 21, D 22, D 23, D 24, D 25, D 26, D 27, D 28, D 29, D 30, D 31, M, MQ, MD.

Table for August 1957 showing hourly mean values and mean for days 1 to 25. Columns include Day, Hourly Mean Values (1-24), and Mean. Rows include D 1, D 2, D 3, D 4, D 5, D 6, D 7, D 8, D 9, D 10, D 11, D 12, D 13, D 14, D 15, D 16, D 17, D 18, D 19, D 20, D 21, D 22, D 23, D 24, D 25, D 26, D 27, D 28, D 29, D 30, D 31, M, MQ, MD.

Table for September 1957 showing hourly mean values and mean for days 1 to 25. Columns include Day, Hourly Mean Values (1-24), and Mean. Rows include D 1, D 2, D 3, D 4, D 5, D 6, D 7, D 8, D 9, D 10, D 11, D 12, D 13, D 14, D 15, D 16, D 17, D 18, D 19, D 20, D 21, D 22, D 23, D 24, D 25, D 26, D 27, D 28, D 29, D 30, D 31, M, MQ, MD.

Dombås

Horizontal Intensity. H = 13000 γ + Tabular Values.

GMT

OCTOBER 1957

Table for October 1957 showing hourly mean values (1-28) and mean values for days D1-D21, MQ, MD, and M. Values range from 858 to 942.

NOVEMBER

Table for November showing hourly mean values (1-28) and mean values for days D1-D25, MQ, MD, and M. Values range from 848 to 942.

DECEMBER

Table for December showing hourly mean values (1-28) and mean values for days D1-D25, MQ, MD, and M. Values range from 547 to 942.

Dombås

Vertical Intensity. Z = 47000 γ + Tabular Values.

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APRIL 1957 HOURLY MEAN VALUES GMT

Table for April 1957 showing hourly mean values for Dombås. Columns include DAY, 1-24, and MEAN. Rows are grouped by day (1-30) and month (M, MQ, MD).

MAY

Table for May showing hourly mean values for Dombås. Columns include DAY, 1-24, and MEAN. Rows are grouped by day (1-31) and month (M, MQ, MD).

JUNE

Table for June showing hourly mean values for Dombås. Columns include DAY, 1-24, and MEAN. Rows are grouped by day (1-30) and month (M, MQ, MD).

Dombås

Vertical Intensity. Z = 47000 γ + Tabular Values.

JULY 1957

HOURLY MEAN VALUES.

GMT

Table for July 1957 showing hourly mean vertical intensity values (1-28) and mean values for days 1-28, with rows for DAY, M, MQ, MD.

AUGUST

Table for August 1957 showing hourly mean vertical intensity values (1-28) and mean values for days 1-28, with rows for DAY, M, MQ, MD.

SEPTEMBER

Table for September 1957 showing hourly mean vertical intensity values (1-28) and mean values for days 1-28, with rows for DAY, M, MQ, MD.

Dombås

Vertical Intensity. Z = 47000 γ + Tabular Values.

OCTOBER 1957

HOURLY MEAN VALUES.

GMT

Table for October 1957 showing hourly mean vertical intensity values for days 1 through 31. Columns include day, hour (1-24), and mean. Rows are grouped by month and day.

NOVEMBER

Table for November showing hourly mean vertical intensity values for days 1 through 30. Columns include day, hour (1-24), and mean. Rows are grouped by month and day.

DECEMBER

Table for December showing hourly mean vertical intensity values for days 1 through 31. Columns include day, hour (1-24), and mean. Rows are grouped by month and day.

