

## DOMINION OBSERVATORY.

### REPORT OF THE DOMINION ASTRONOMER AND SEISMOLOGIST FOR THE YEAR ENDED 31ST DECEMBER, 1932.

#### BUILDINGS AND EQUIPMENT.

The buildings and equipment have been kept in good order and condition. The Observatory grounds have been kept in good order by the Wellington City Corporation.

#### ASTRONOMY.

##### *Astronomical Observations.*

As in the previous year, the Observatory signal clock has been controlled mainly by means of radio time signals. It has not been possible to carry out sufficient meridian transit observations for these to be of use in controlling the time service.

##### *Reception of Radio Time Signals.*

The following radio time signals have been received for the purpose of checking the Observatory signal clock :—

Station.	Call Sign.	Hour (G.T.M.).	Number of Times received.	Greatest observed Error of Observatory Clock.
Nauen .. ..	DFY	00	286	0·85 seconds slow, December 16.
Malabar .. ..	PKX	01	142	0·50 seconds slow, April 14, May 27.
Honolulu .. ..	NPM	03	5	0·11 seconds fast, December 5.
Annapolis .. ..	NSS	05	17	*1·5 seconds fast, July 29.
Annapolis .. ..	NSS	08	18	0·33 seconds slow, February 23.
Bordeaux .. ..	FYL	08	99	0·32 seconds slow, November 1.
Rugby .. ..	GBR	10	4	0·12 seconds slow, August 9.
Nauen .. ..	DFY	12	2	0·14 seconds slow, May 17.
Bordeaux .. ..	FYL	20	416	†2·82 seconds slow, March 2.
Annapolis .. ..	NSS	21	106	0·75 seconds fast, August 20.

\* Due to irregularities in clock-rate.

† Due to breakdown in synchronizing circuit.

All the above radio signals are long-wave, except Honolulu at 3 hours, which is a short-wave signal.

The total number of signals received during the year was 1,095. This number includes both mean-time and rhythmic signals from Nauen, Bordeaux, and Rugby; Malabar, Honolulu, and Annapolis transmitting mean-time signals only. The daily-check signal from Bordeaux at 20 hours G.M.T. (7.30 a.m. N.Z.M.T.) was not available after October 15th. It is not possible to make regular use of the British time-signals transmitted by Rugby Radio owing to the very unsuitable times of transmission (5.30 a.m. and 9.30 p.m. N.Z.M.T.).

##### *Time Signals sent out from the Observatory.*

The time service has been maintained, and the regular signals have been transmitted daily. The present routine at the Observatory provides for the following time signals, most of which are sent automatically by the Observatory signal clock. The error of the signal clock seldom exceeds one-quarter of a second of time.

##### *Automatic Time Signals—*

- (1) To the General Post Office and the Railway Department, Wellington, by telegraph daily, except on Government holidays and on Sundays.
- (2) To ships and to the general public at Wellington, by electric lights at the Observatory daily.
- (3) To the Auckland Harbour Board, by electric lights at Auckland, on Tuesdays and Fridays, except Government holidays.
- (4) To the South Island telegraph offices, by telegraph, on Tuesdays and Fridays, except Government holidays.
- (5) To the Lyttelton Harbour Board, by dropping the time-ball at Lyttelton, on Tuesdays and Fridays, except on Government holidays.
- (6) Radio time signals through the Radio Broadcasting Station, 2YA at Wellington, daily at 4 hours and 8 hours G.M.T.
- (7) Radio time signals through the Wellington Radio Station ZLW, on Tuesday and Friday evenings at 8.30 p.m. (9 hours G.M.T.), except on Government holidays.
- (8) Radio time signals through the Wellington Radio Station ZLW, every day at 10.30 a.m., 23 hours G.M.T.).

In transmitting radio time signals the call sign of the Observatory is ZLY.