

7. Resurvey of Strain Grids at Mizuho Camp and Y 200

Kazuhide SATOW*

Observers: Kazuhide SATOW and Okitsugu WATANABE

7.1. Introduction

The strain grids at Mizuho Camp and Y 200 were set up in November 1970, by JARE-11 (Naruse et al., 1972), and resurvey was carried out on 5 February, 1975 and 26 October, 1974, respectively.

7.2. Method and computation

7.2.1. Mizuho Camp

The distance between points (1) and (4), the diagonal of the square to be used as a base line, was measured by an Electrotape (Cubic DM-20) and the angles were measured by Wild T2 theodolites as shown in Fig. 1.

The observed distance (1) - (4) was corrected in the following order:

- 1) Meteorological correction with air temperature and atmospheric pressure.
- 2) Slope correction by the vertical angle. Horizontal distances between the two points were computed by using the base line and the measured angles. The values of the horizontal angles and those of the horizontal distances were given in Tables 1 and 2, respectively.

7.2.2. Y 200

An additional point (0) was newly set up as shown in Fig. 1, and the distance between points (0) and (1) was determined by a subtense bar of 2 m long. The line (0) - (1) was used as the base line. Measured horizontal angles are given in Table 3, and horizontal distances between the two points computed by using the basal line (0) - (1) and measured angles are given in Table 2.

Reference

- Naruse, R., Yoshimura, A. and Shimizu, H. (1972): Installation of a triangulation chain and a traverse survey line on the ice sheet in the Mizuho Plateau-West Enderby Land area, East Antarctica, 1969 - 1970. JARE Data Rep., 17 (Glaciol.), 111 - 131.

* Disaster Prevention Research Institute, Kyoto University, Uji 611.

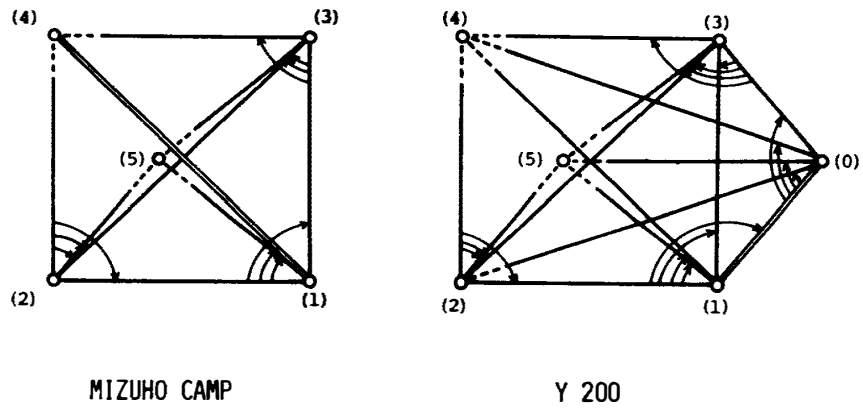


Fig. 1. The configuration of square strain grids at Mizuho Camp and Y 200.

Table 1. Horizontal angle of strain grid at Mizuho Camp.

Observation Point (1)		
Point	Horizontal angle	
(2)	0°	0' 0"
(5)	43	40 56
(4)	43	41 20
(3)	89	55 04
Observation Point (2)		
(4)	0°	0' 0"
(5)	46	18 15
(3)	46	19 02
(1)	90	05 12
Observation Point (3)		
(1)	0°	0' 0"
(2)	46	18 39
(5)	46	19 23
(4)	90	04 37

Table 2. Horizontal distance of strain grid at Mizuho Camp and Y 200.

Mizuho Camp		
Point	Point	Horizontal distance m
(1)	(2)	1082.73
(1)	(3)	1035.88
(1)	(4)	1499.52
(1)	(5)	749.92
(2)	(3)	1497.37
(2)	(4)	1035.78
(2)	(5)	748.53
(3)	(4)	1082.82
(3)	(5)	748.85
(4)	(5)	749.59

Y200		
Point	Point	Horizontal distance m
(0)	(1)	528.22
(1)	(2)	982.66
(1)	(3)	1041.69
(1)	(4)	1433.30
(1)	(5)	715.93
(2)	(3)	1432.10
(2)	(4)	1041.45
(2)	(5)	715.11
(3)	(4)	984.82
(3)	(5)	716.96
(4)	(5)	717.33

Table 3. Horizontal angle of strain grid at Y 200.

Observation Point (0)		
Point	Horizontal angle	
(1)	0°	0' 0"
(2)	29	01 42
(5)	54	03 48
(4)	70	25 55
(3)	104	47 21

Observation Point (1)		
Point	Horizontal angle	
(2)	0°	0' 0"
(5)	46	35 57
(4)	46	36 10
(3)	90	00 16
(0)	135	51 07

Observation Point (2)		
Point	Horizontal angle	
(4)	0°	0' 0"
(5)	43	26 44
(3)	43	26 58
(1)	90	06 58

Observation Point (3)		
Point	Horizontal angle	
(0)	0°	0' 0"
(1)	29	21 25
(2)	72	41 00
(5)	72	41 08
(4)	119	20 16