

## The monitoring and correction methods of geomagnetic data influenced by artificial disturbances

NAGAMACHI, Shingo<sup>1\*</sup>, Kenji Morinaga<sup>1</sup>, Yoshitomo Ikoma<sup>1</sup>, Mayumi Akutagawa<sup>1</sup>, Takashi Moriyama<sup>1</sup>, Takeshi Oowada<sup>1</sup>, Tetsuo Tokumoto<sup>1</sup>

<sup>1</sup>Kakioka Magnetic Observatory,JMA

Magnetic body such as motor vehicles, are source of artificial disturbance for geomagnetic observation. It is necessary to correct those values influenced by artificial disturbances to get exact values. In this report, We introduce the monitoring and correction methods of artificial disturbance for geomagnetic observation.

In the busy farming season in Kakioka Magnetic Observatory and Memambetsu branch, and all the year round in Kanoya branch, motor vehicles or tractors disturb magnetic fields several times a day. We installed a number of magnetometers on site of each observatory in order to estimate position and intensity of the source of artificial disturbance. Moreover in Kanoya, there is a reference observation site outside the Kanoya. In the case motor vehicle stops around observatory, we assume the source of artificial disturbance is a magnetic dipole, and estimate their position and intensity, and correct the observation values.

In Kanoya, not a dipole source but a direct current had affected observation. In this case, we carried out the absolute observation while this disturbance, we had to calculate the quantity of disturbance at absolute observation point. By using the observation data not only steady observation points but also once monthly total force observation points which set up in a grid pattern, we could estimate the direct currents flowed east side and south side of circumference of a site. We could calculate the position and intensity of those currents, and correct the absolute observation values appropriately.

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