

中国大同地域に分布する単成火山群の古地磁気：ブルン期早期～中期における古地磁気方位及び強度変動

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Paleomagnetism of the Datong monogenetic volcanoes in China: paleodirection and paleointensity

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Paleomagnetic measurements were conducted on Datong volcanic rocks from China, which are thought to have formed in the mid to early Brunhes Chron. Meaningful site-mean paleodirections were obtained from 21 sites which are considered to represent 17 independent cooling units. They give a mean VGP (virtual geomagnetic pole) position of (76.5N, 7.9E) with $A95=7.7$ (N=17), which is statistically distinct from geographic north. This dataset also yields an ASD (angular standard deviation) of 17.2 around the mean VGP position. Because the paleodirections form two clusters, the samples may record the paleomagnetic field during two different short periods and therefore may not average out paleosecular variation. Paleointensity measurements were conducted using three different methods. The DHT and LTD-DHT Shaw methods, the Thellier method, and the microwave Thellier method were applied to 119, 29 and 73 specimens respectively, and they give 66, 16 and 12 successful results (success rates are 55, 55 and 16 per cent). From the LTD-DHT Shaw dataset, eight acceptable site-mean paleointensities are obtained. They give an average VDM (virtual dipole moment) of $3.79 \pm 1.94 \cdot 10^{22} \text{ Am}^2$. This is 56 per cent lower than the average VDM of $5.91 \pm 1.74 \cdot 10^{22} \text{ Am}^2$ (N=14) calculated from the selected Thellier data from the latest paleointensity database using the same criteria. One possible reason for this difference might be systematic overestimations of paleointensities by the Thellier method on volcanic rocks.