

PALAEOINTENSITY DETERMINATIONS OF CRETACEOUS ROCKS FROM WESTERN ANTARCTICA

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Most of more than three thousand of ancient geomagnetic field (Hanc) reported in the literature are referred to the Northern hemisphere. In the Southern hemisphere the determinations of Hanc basically are made for low and middle latitudes. The collection of samples with high paleoinclinations has been selected in the western part of Antarctic Peninsula near the Akademik Vernadsky station. The rocks represent the Andean Intrusive Suite and have different chemical compound: gabbro, diorite and quartz-diorite, tonalite, granite, granodiorite. Determinations of Hanc on 76 samples from 23 sites were carried out. The Thellier experiments were complimented by the Wilson's express method. Detailed magnetic (Ms, Mrs, Hc, Hcr) and thermomagnetic measurements were done. Domain structure was estimated from the Mrs/Ms, Hcr/Hc ratios, thermal stability was accessed from the thermomagnetic saturation magnetization curves with heating-cooling cycles to incrementally higher temperatures and from the Mrs(T) curves by comparison two sequent heatings. Curie points were found from Ms(T) curves.

The gabbro complex has been found as paleomagnetic informative rocks. The ages of these rocks from geochronology determinations are 93-57 Ma (mostly Upper Cretaceous). The samples showed good thermal stability. New determinations of Hanc obtained from these rocks vary from 16 to 25 μT . The corresponding VDMs = $(2.12-3.31) \cdot 10^{22} \text{Am}^2$ which are significantly lower its modern value. This finding agrees well with previous data obtained for Upper Cretaceous from other regions thus supporting the hypothesis of Low Mesozoic Law.

paleointensity, Thellier, Cretaceous

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