

## Paleomagnetic field tests on Paleoproterozoic rocks from the Pilbara craton, Western Australia

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The earliest geomagnetic field is important to constrain the early Sun-Earth space environment as well as the thermal evolution of the Earth's interior. The Pilbara craton in Western Australia contains one of the least metamorphosed Archean and Proterozoic rocks, and they may preserve paleomagnetic records. However, it has been debated whether the magnetic signal in those rocks are primary or secondary (Schmidt, 2014 Gondwana Research). Here we report the results of paleomagnetic field tests on Paleoproterozoic rocks from the Pilbara craton, in particular of conglomerate test on chert clasts. The deposition age of the conglomerate is estimated to be ca. 3.47 Ga on the basis of the stratigraphy. The main clast type is moderately rounded gray chert. Stepwise alternating field and thermal demagnetization were performed on chert clasts. The direction of low coercivity, low unblocking temperature component was close to the present geomagnetic field direction. Preliminary results ( $N=7$ ) did not reject the hypothesis that the high coercivity component is from uniform distribution, i.e., the conglomerate test was positive. However, 3 clasts exhibit remanence direction relatively close to that of the matrix. This argues that the data number is not yet enough to conclude the age of the magnetization.

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