Systetmatic examination of the properties of remanent magnetizations carried by magnetotactic bacteria *Magnetospirillum magnetotacticum* MS-1 in early process of sediment formation

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Variation of the past geomagnetic field is recorded in marine sediments as a fossil magnetization, called natural remanent magnetization (NRM). NRM is carried not only by detrital magnetic grains but also by biogenic magnetic grains originated from magnetotactic bacteria. To investigate characters of NRM carried by biogenic magnetic grains we have cultured the magnetotactic bacteria *Magnetospirillum magnetotacticum*MS-1 (here under, MS-1) in laboratory and made samples using them for remanent magnetization measurements by simulating a very early process of sediment formation. The samples were made under the four different conditions: (A) constant magnetic field (50 μT) and constant cell numbers (~3×10^9cells); (B) constant magnetic field (50 μT) and variable magnetic field (1.0-4.5$\times10^9$cells); (C) variable magnetic field (0-90 μT) and constant cell numbers (~3×10^9cells); (D) variable magnetic field (0-90 μT) and zero cells (blank speciments).We will report and discuss results.

