

Density separation of magnetotactic bacteria *Magnetospirillum magnetotacticum* MS-1

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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 and aeolian 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 microaerobic bacteria *Magnetospirillum magnetotacticum* MS-1 (here under, MS-1) in laboratory and made sample using them for remanent magnetization measurements by simulating a very early process of sediment formation.

Preliminary reports on properties and characters of the remanent magnetization carried by the samples have been presented in Masaoka et al (2018JpGU; 2018SGEPSS), but MS-1 cells used for making samples rarely contain magnetite grains in these cells (3 percent of the total cells). To try to increase number of the cells containing magnetite grains, we have tested a density separation method using finer density gradients centrifugation and observed separated cells by transmission electron microscope. We will report results of observations together with those magnetic measurements.