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Electric Conductivity of Isolated Hollow Sphere TOSHIFUMI TERUI, National Institute of Information and Communications Technology, TAKASHI NAGASE, Graduate School of Engineering, Osaka Prefecture University, HIROYUKI HASEGAWA, RIEKO UEDA, SHINRO MASHIKO, National Institute of Information and Communications Technology, YASUHARU KODUKA, QUAN-LIN YE, HIROFUMI YOSHIKAWA, MOTOTAKA ONISHI, KUNIO AWAGA, Department of Chemistry, Nagoya University — In magnetic materials of nano-meter size, peculiar magnetic structures and characteristics are expected. The hollow sphere is an interesting material in such nano magnetic materials because of the unique structure. The diameter and the thickness of shell of the hollow sphere can be accurately controlled between 100-500nm and 40nm respectively. It is necessary to examine the physical properties about isolated hollow sphere of ferromagnet to apply this material as nano-spin material. Therefore, we combined the top down and the bottom up technique to isolate the hollow sphere on the surface. For example, the nano-gap electrodes were fabricated by EB lithography and FIB. Manipulation of the hollow sphere were also performed by SEM with probe.

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