Abstract Submitted
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Fabrication of Diamond-Like Carbon Nano-whiskers[1] TOORU HARIGAI, AKIMITSU HATTA, Kochi University of Technology — Diamond-like carbon (DLC) whiskers were fabricated by etching of DLC films using radio frequency (RF) O_2 plasma. The DLC films were grown on silicon substrates using RF plasma chemical vapor deposition (CVD) method. Fine metal particles were deposited on the DLC film using a DC magnetron sputtering method before etching. DLC whiskers were found on the DLC film surface using an FE-SEM. Fabricated DLC whiskers were 20 nm in diameter and 500 nm long. It was found that the DLC whiskers bent and stuck together during FE-SEM observation. The structural change during observation can be explained as follows; because of secondary-electron emission from DLC whisker irradiated by the electron beam, a DLC whisker is positively charged up and the surrounding whiskers are negatively charged up. The positively charged whisker and the negatively charged whiskers will stick each other during the slow scanning. [1] C.Y. Li et al., Diamond Relat. Mater. 14 (2005) 1780. [2] Properties of Amorphous Carbon, ed. by S.R.P. Silva, INSPEC, IEE, London, UK (2003) 168-175.

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