## **Possibilities of Diamond Quantum Sensors**

Mutsuko Hatano and Takayuki Iwasaki

(Department of Electrical Engineering, Tokyo Institute of Technology).

Ookayama, Meguro, Tokyo 152-8552, Japan

Phone: +81-03-3726-3999 E-mail: hatano.m.ab@m.titech.ac.jp

Nitrogen-vacancy (NV) centers in diamond have superior physical properties at room temperature for quantum sensing of magnetic field, electronic field, temperature, and pressure with scalable applications from atomic-scale to macroscopic range. We would like to introduce highly sensitive diamond sensors by applying advanced nano-device technologies, quantum sensing protocols and module system. For application, we will show the biological imaging, nano-scale NMR, and the device sensing. Advanced technologies for spintronics and electronics are needed for higher performance.

