Annotation

The temperature sensitivity of optically detected magnetic-resonance (ODMR) spectra of nitrogen-vacancy (NV) centers in diamond enables a new approach to *in vivo* thermometry.

In this work with the help of inserted microdiamond, containing nitrogen-vacancy centers, local temperature of brain surface in $C57BL/6$ mouse was measured contactless. Brain temperature dependance from the temperature of head mount was obtained. Heat impact from optical pump at $\lambda = 532\ nm$ was measured.

In addition software for laser scanning confocal microscope (LSCM) was developed and tested.