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**Date :** Feb. 22 (Thu), 2018, 14:00–15:00

**Location :** W524, 5F, Cooperation Center, Wako Campus, RIKEN

**Title :** Mechanical and thermal coupling of ultrashort laser pulses with solids

**Speaker :** Prof. Wolfgang KAUTEK

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Incubation in the laser ablation, particularly of metals, still is a rarely understood phenomenon. An extended defect model is introduced where incubation is partially attributed to optically active high-density defects with a separation below the laser wavelength [1-4]. It is demonstrated with organic and inorganic materials. The generation of nanoparticles by laser ablation of metals in liquids has attracted attention because it enables the production of bio-compatible nanoparticles for medical and catalytic applications [5,6]. Incubation is correlated with the contrasting behavior of Ni, Fe, and W in various liquid media.

Apertureless scanning near-field optical lithography (aNFOL) can overcome the light diffraction limitation [7,8]. A scanning probe microscope (SPM) tip is illuminated by a focused femtosecond laser beam from a non-amplified compact femtosecond Yb-doped fiber laser oscillator [9].

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