

エクストリームフォトンクスセミナー

Extreme Photonics Seminar



日時： 平成21年2月12日(木)
16:00 ~ 18:00, Feb.12 (Thu), 2009

場所： 研究交流棟5階会議室 W524
Cooperation Center, 5F Meeting Room, W524

題目： Development of Coherent EUV Scattering
Microscopy

講師： 木下 博雄 氏 (兵庫県立大学 高度産業科学技術研究所 教授)
Prof. Hiroo KINOSHITA, Laboratory of Science and Technology for Industry, Univ. of Hyogo

要旨： In order to measure a CD value of EUV mask pattern with a high precision and high speed, we have developed a coherent EUV scattering microscope(CSM) installed at the BL3 beamline in the NewSUBARU synchrotron facilities. The light from coherent EUV light illuminate a sample, the reflective diffraction pattern is obtained by a CCD camera and the reverse Fourier transform is carried out with a computing system to reproduce a sample image. The lens-less imaging technique provides aberration-free diffraction-limited images without restriction on the resolution and depth-of-focus (DOF). The resolution is determined by the 2-D detector size and the length between CCD camera and sample, i.e., numerical aperture (NA). Up to now, 55nm is obtained. Using this system, CD measurements in an area of 100 mm x 100 mm were evaluated. The tendency for CD values were good coincidence with CD-SEM data.

題目： Laser molecular science from simple systems
to bio-functional systems

講師： 星名 賢之助 氏 (新潟薬科大学 准教授)
Prof. Kennosuke HOSHINA, Niigata Univ. Pharmacy & Applied Life Sciences

要旨： One of major trends of researches on laser chemistry have been led by development of extreme laser lights such as the ultra-short laser pulses and the ultra-intense laser fields produced by Ti:Sapphire laser sources. In such the recent background, we are focusing on a variety of molecular systems and their responses on the laser irradiation, especially for small size functional bio-molecular systems. This research direction implies possibilities of a development of a new analytical method using laser technologies as well as findings of new phenomena and understanding of mechanisms of the molecular functions. We have started researches on photochemical reaction of furan, amides, alcohols and ethers, which have functional groups essential for bio-molecules, induced by short and intense laser fields, and extended target systems to amino acids and peptides. We also started an investigation of a protonation mechanism of amino acids in MALDI process. In the present seminar, recent our attempts at NUPALS will be presented.

連絡先： 緑川レーザー物理工学研究室 小林、永田 (内線8532)

