Contribution ID: **90** Type: **POSTER**

Applications of a High-contrast X-ray CT to Polymers, Insects, Plants, Foods, etc.

Thursday 6 September 2012 15:10 (1 hour)

Since polymers mainly consist of the light atomic elements, the transmission of polymers against X-rays is usually too high to be visualized in X-ray microscopy, and hence, it has been considered that the polymers are not suitable for the X-ray computerized tomography (XCT). We calculate the X-ray absorption coefficients of various polymers and find the reasonably good conditions for the XCT observations of polymers: the use of 15 KeV X-rays on average can resolve the polystyrene and poly(methy methacrylate) in 3 μm spatial resolutions. According to this calculation, we build a XCT and experimentally confirmed the visualization of the phase-separation structures of PS/PMMA blends. Thus developed apparatus is applied to many kinds of subjects, such as insects, plants, foods, and so on.

Primary authors: Dr BABA, Sueki (Beamsense Co. Ltd. Japan); NISHIKAWA, Yukihiro (Kyoto Institute of Technology)

Co-author: Prof. TAKAHASHI, Masaoki (Kyoto Institute of Technology)

Presenter: Dr BABA, Sueki (Beamsense Co. Ltd. Japan)

Session Classification: Poster session

Track Classification: X-ray imaging applications - Material Science