



Contribution ID: 315 Contribution code: S2 Condensed Matter Physics Type: Poster Presentation

Effect of Ni-Co transition metal ratios on structure-function of Lithium Aluminum Borate Glasses by synchrotron-based XAS and XPS

X-ray absorption spectroscopy (XAS) were employed for the investigations on the local structure and oxidation state of Lithium Aluminum Borate Glasses ($Li_2O-Al_2O_3-B_2O_3$) doped with various concentrations of $xNi:Co$ (where $x = 1, 2, 3$, and 4). XAS analyses revealed that all glasses comprise the mixed oxidation state of Ni^{+2} and Ni^{+3} corresponding to cyclic voltammetry (CV) results measured. TEM diffraction pattern and XRD patterns were used to confirm phase structure of all samples. Interestingly, electrochemical properties of prepared ($Li_2O-Al_2O_3-B_2O_3$) glasses could be enhanced by changing the Ni/Co ratio in glass structure.

Author: LOMON, Jidapa

Co-authors: Ms PADCHASRI, Jintara; CHANLEK, Narong (Suranaree University of Technology (TH)); KID-KHUNTHOD, Pinit; SONGSIRIRITTHIGUL, Prayoon (Research Network NANOTEC-SUT on Advanced Nanomaterials and Characterization, School of Physics, Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand, Thailand Center of Excellence in Physics, MHESRI, Bangkok 10400, Thailand, Synchrotron Light Research Institute, Muang, Nakhon Ratchasima 30000, Thailand); SIRIRO, Sumeth; MONTREEUPATHUM, amorntep

Presenter: LOMON, Jidapa

Session Classification: Poster: S2 Condensed Matter Physics

Track Classification: Condensed Matter Physics