Siam Physics Congress 2017



Contribution ID: 335

Type: Poster

Development of X-ray fluorescence technique for tin oxide analysis

Wednesday, 24 May 2017 15:45 (15 minutes)

The purpose of this work was to develop technical analysis of X-ray fluorescence (XRF) and compare with technical neutron activation analysis (NAA). In this study, three samples of tin oxide (SnO) were used to be the reference materials. The results from NAA show the content of tin were 79.39, 77.48 and 73.35 wt%. While the XRF analysis in unnormalized mode show the content of tin were 68.77, 67.42 and 61.60 wt% and normalized mode were 72.44, 77.95 and 68.71wt%, respectively. The SnO were mixed with borax that use as a binder. The borax contents were varied from 30 to 70 wt%. The XRF in normalized mode result show the sample that mixed with borax 70 wt% has the highest accuracy of tin were 75.71, 74.61 and 71.01wt%. Our study demonstrated that improved using XRF technique in normalized mode and mixed with borax 70wt% to analyses the content of tin use instead NAA technique. From the experiment could be apply to determine the concentration of tin in various industry.

Primary authors: BOONPRATUM, Chalongwut (Department of Physics, Faculty of Science, King Mongkut's University of Technology Thonburi, Bangkok, Thailand); Dr KAEWWISET, Weeranut (Department of Physics, Faculty of Liberal Arts and Science, Kasetsart University, Kamphaeng Saen Campus); Prof. LIMSUWAN, Pichet (Department of Physics, KMUTT); Dr NAEMCHANTHARA, Kittisakchai (Department of Physics, Faculty of Science, King Mongkut's University of Technology Thonburi,)

Presenter: BOONPRATUM, Chalongwut (Department of Physics, Faculty of Science, King Mongkut's University of Technology Thonburi, Bangkok, Thailand)

Session Classification: Poster Presentation I

Track Classification: Plasma and Ion Physics, Nuclear and Radiation Physics