Contribution ID: **492** Type: **Oral**

Characterization of Monolithic Active Pixel Sensors with a 1 GeV Electron Beam at SLRI Beam Test Facility

Tuesday, 22 May 2018 11:30 (15 minutes)

Abstract
A Large Ion Collider Experiment (ALICE) plans to upgrade the Inner Tracking Systems (ITS) during the second long shut down of the Large Hadron Collider (LHC) in 2019. The current ITS detectors will be replaced by new detectors based on Monolithic Active Pixel Sensors (MAPS) to enhance the tracking performance and momentum resolution. Several MAPS prototypes that integrate an image sensor and read-out circuit on the same chip such as Explorer, pALPIDE have been designed and developed by the ALICE collaboration. Suranaree University of Technology (SUT) and Synchrotron Light Research Institute (SLRI), as members of the ALICE collaboration, have been working together with the ALICE team on research and development of these sensors. The MAPS prototypes have been characterized and studied. In this work, the results of the characterization of the MAPS prototype, pALPIDE with a 1 GeV electron beam at the SLRI Beam Test Facility (SLRI-BTF) will be presented. The detection efficiency of 99.6 has been obtained.

Keywords: Synchrotron Light Research Institute Beam Test Facility, ALPIDE (ALICE PixelDEtector), Monolithic Active Pixel Sensors

Primary author: Mr LAOJAMNONGWONG, NATTHAWUT (Suranaree University of Technology)

Co-authors: Dr KOBDAJ, CHINORAT (Suranaree University of Technology); Dr KITTIMANAPUN, KRITSADA (Synchrotron Light Research Institute); Dr CHANLEK, NARONG (Synchrotron Light Research Institute)

Presenter: Mr LAOJAMNONGWONG, NATTHAWUT (Suranaree University of Technology)

Session Classification: A12: High Energy Physics

Track Classification: High Energy and Particle Physics