

DUAL MODALITY TOMOGRAPHY SYSTEM USING OPTICAL AND ELECTRODYNAMIC SENSORS FOR TOMOGRAPHIC IMAGING SOLID FLOW

M. F. Rahmat¹, S. Ibrahim¹, M. M. Elmajri¹, N. F. Mohammed¹, M.D Isa²

¹Control and Instrumentation Department, Faculty of Electrical Engineering, Universiti
Teknologi Malaysia, Skudai, Malaysia,

²Politeknik Kota Bharu, KM.24 Kok Lanas, 16400 Ketereh, Kota Bharu, Kelantan,
Malaysia.

E-mails: fuaad@fke.utm.my, salleh@fke.utm.my, Mus_utm@yahoo.com,
Balqis_zz@yahoo.com, peppkb@yahoo.com

Abstract- Process tomography is a technique to realize flow imaging in a process vessel or pipeline by using the sensor system. This technique involves the use of tomographic imaging methods to manipulate data from sensors in order to collect sufficient information about the flow in the pipeline. The overall aim of this paper is to investigate the benefits of dual modality (optical and electrodynamic) tomography system for the measurement of tomographic images of solids flow. This research will investigate the distribution of conveying plastic beads in a conveying pipe by placing optical and electrodynamic sensors around the pipe without interrupting the flow inside the pipe.

Keywords: Dual modality, tomography, solid flow, optical sensors, electrodynamic sensors.