Gray Scale and Edge Detecting Method To Extract Raw Data in The Diffusivity Measurement System

Publons ID	(not set)
Wos ID	WOS:000477983900012
Doi	
Title	Gray Scale and Edge Detecting Method To Extract Raw Data in The Diffusivity Measurement System
First Author	
Last Author	
Authors	Handoyo; Purwantiningsih, D; Maulidah, D; Sudarmawan, L; Aman, M; Sudarmaji, A; Handoko, D;
Publish Date	2018
Journal Name	2018 3RD INTERNATIONAL SEMINAR ON SENSORS, INSTRUMENTATION, MEASUREMENT AND METROLOGY (ISSIMM)
Citation	
Abstract	The two-liquid diffusion process in a transparent container can be observed based on the laser beam deflection through it. A digital camera is connected to a computer to take laser beam traces on the screen and processing in the form of several image filtering procedures and algorithms to develop the digital value of the laser beam coordinates captured on the screen. Extracting image data into numerical data for the next calculation process must represent the image curve approaching the original curve when the numerical data is plotted. Some algorithms based on the OpenCV programming language was constructed, such as grayscale and applied Canny Edge Detection show significant laser beam traces and specified coordinate values. Canny Edge Detection produces sharper image data and more precise numerical data compared to previous experiments using grayscale, eroded and dilution image processing algorithms. For comprehensive observation, the character of this system is discussed with reference to the Sodium Chloride solution as an observation object. The result of the diffusivity in this experiment was 1.386 x 10(-5) cm(2)/s. It was found in a good agreement within an error bar to a reference, indicating the system is running well.
Publish Type	Book
Publish Year	2018
Page Begin	58
Page End	60
Issn	
Eissn	
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000477983900012
Author	ARIEF SUDARMAJI