

ROUTINE MONITORING DCC CMM USING LASER
INTERFEROMETER

By

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2-2014-1203

MASTER'S DEGREE
in

MECHANICAL ENGINEERING – MECHATRONICS CONCENTRATION
FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY



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August 2016
Revision after the Thesis Defense on 29 July 2016

STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

Calibration of Coordinate Measuring Machine Using Laser Interferometer to get
Factory Standard Design

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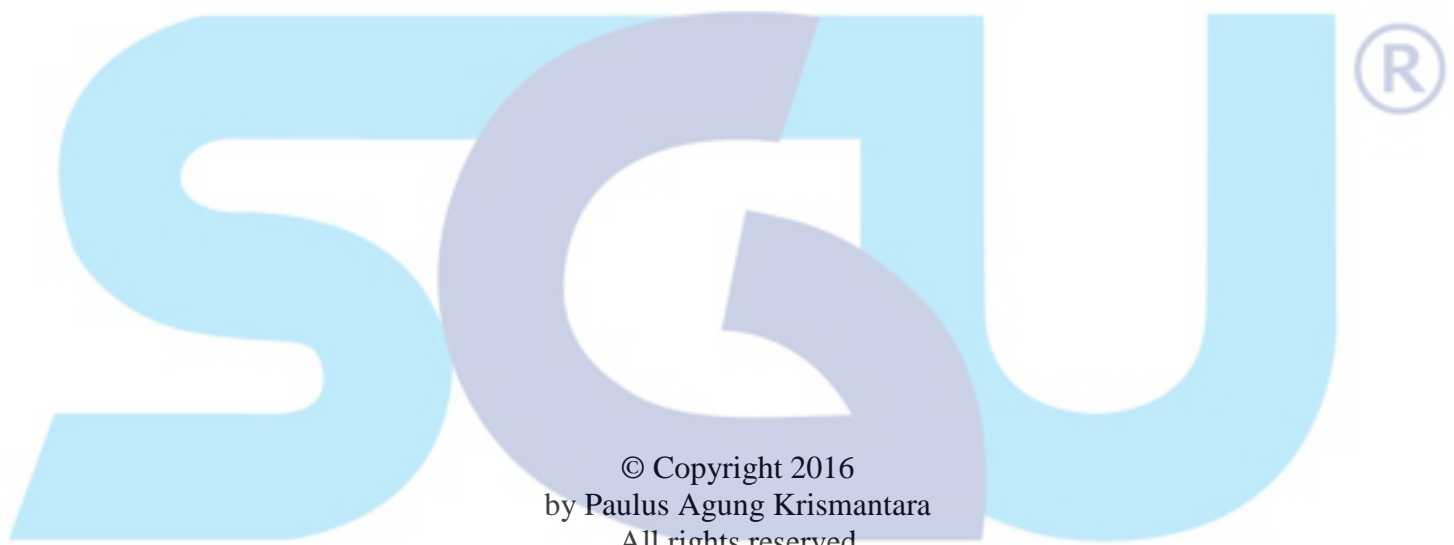
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Manufacture industries are growing and request high quality product. To maintain high quality product, it is necessary to have high quality measurement equipment. Coordinate Measuring Machine (CMM) is invented to gain the requirement of high accuracy measurement tools with the flexibility as the benefit. The moving parts as the Coordinate Measuring Machine should be calibrated and verified in order to ensure the machine performance. This research has a purpose that Laser Interferometer's application can be applied as a routine CMM calibration and verification. Using Laser Interferometer application, the CMM can be monitoring the performance. The main idea is all the CMM will be verified using laser Interferometer and will have the same measurement result of the object. The paper started from the hardware preparation which are laser interferometer and CMM. The laser interferometer accessories that will be used is linear optic and the CMM that will be used is Direct Computer Control (DCC) CMM. The product as an object of measurement is made by aluminium which has thermal coefficient and related to temperature change. One of the advantages of using laser interferometer is the fact that it will be flexible measuring and high accuracy result.

Keywords: DCC CMM, Laser Interferometer, machine performance,



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DEDICATION

My beloved Viviana and Little Princess Keilana

My beloved father, Leonardus Arum Riyana

My beloved mother, Theresia Subiyar Rahayu

The MME Batch 2 SGU Brotherhood



ACKNOWLEDGEMENTS

I would like to thank all those people who have supported me and had their contributions in making this thesis possible. First and foremost, I acknowledge and thank The Almighty God for blessing, protecting and guiding me throughout this period.

I would like to thank my advisors, Mr. Dr. Ir. Hanny J. Berchmans, M.T., M.Sc., Mr. Dr. Ir. Gembong Baskoro, M.Sc. and Mr. Dena Hendriana, B.Sc., S.M., Sc.D., for the guidance, encouragement and advice they have provided throughout my time as their student.

My gratitude to Viviana, a caring wife for her love, support and encouragement and our sweet little daughter, Keilana, for disturbing me with all her activity and let me coming back to school again. Both of you are my blessing

Also for colleague, Mr. Widi and Dhamar as my company partner and Renishaw plc that has a very beautiful products that support me in this research.

Completing this work would have been more difficult without the support and friendship provided by the other members of the MME SGU – class of MME Batch-2, and all the staff at MME SGU – BSD Serpong Campus thank you on their continuing support.

Jakarta, June 2016

Paulus Agung Krismantara

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