



Smt. S.R. Patel Engineering College, Dabhi

Awareness Seminar On “APPLICATIONS OF NON CONTACT MEASUREMENT TECHNIQUES IN SPACE ENGINEERING”



Date
25th February, 2015

Venue
Om Engineering College
Junagadh



Participant Students

Branch: Mechanical Engineering

Semester: 6th

Total Students: 03

Expenditure

Total: Rs. 3000/-

Roll No	Name
12ME40	PATEL DEVANSH
12ME59	CHAUHAN NIRAV
12ME60	PANCHANI KISHAN



OM ENGINEERING COLLEGE
-Managed by shri OM Education Trust-

A seminar on “Applications of Non Contact Measurement Techniques in Space” is the first of its kind of seminar planned in the Gujarat state. The seminar will mainly help in knowledge sharing and value addition of not only the professional mechanical engineers but also of the engineering college faculty and Scientists/ Engineers working in various research organizations. The sharing of knowledge would help the Engineers and industrialists in gearing up for the future technical challenges in the field of Metrology.

Space antennae and other sub-systems like sensors, apogee motors etc. essentially requires accurate alignment at subsystem level and at Spacecraft level. Various contact and non contact measurement techniques are being used at various stages of subsystem integration. This seminar will focus on non contact measurement techniques and their applications in space field. An exhibition is also planned for hardware demonstration of various Non-Contact techniques.

Non contact type metrology methods are available now a days. Aerospace industries worldwide have come to rely more heavily upon precision measurements. Even though technologies have moved towards lasers or on photogrammetric and away from traditional contact probe CMMs, most precision measurement has continued to include some element of contact. Till recent past, precision non contact systems could only measure small distances but now-a-days large scale non contact precision measurement is possible with the advent of new type frequency modulated laser system and image processing techniques for Close Range Photogrammetric. Non contact methods like Laser Tracker or Electronic Coordinate Determination System (ECDS) or Close Range photogrammetric (CRP) is one of the high accuracy measurement method available for carrying out various type of measurements starting from simple linear distance calculation to complex surface error estimations. These methods are widely used (from high accuracy spacecraft level alignment to surveying applications) to cater to high accuracy and faster measurement requirements which is in vogue now a days. Coordinates generated are being used for post processing of data for Alignment parameters which define geometrical configuration like reflector shape, focal length, feed orientations etc which are decided during RF design.. The Seminar will contain invited talks from professionals and academicians from various Institutes like ISRO, IIT's and other Metrology industries.

Photos



Student Feedback:

Topic	MARKS
(a) Gain the future technical challenges in the field of metrology	10
(b) To know about Various Meserment techniques	10
(c) Whats about Space Research	9
(d) Which type of product demand in Space market?	9.33
(e) It's Useful for Innovation Think/Project	10

PROGRAMME SCHEDULE:**(Program to be coordinated by Mr. Amit Agarwal, Organizing Secy., SSME)**

Sr. No.	Topic	Speaker	Organization	Time
1	Registration			08:30-08:45
2	Invocation/ Saraswati Vandana			08:45-09:00
3	Inaugural Address	Sh. A M Jha, DD, SAC/ISRO	SAC	09:00-10:00
4	Keynote Address:- “Introduction to Non Contact Metrology Methods”	Sh. K V Govinda, DD, ISAC/ISRO	ISAC	
5	About SSME	Sh. A C Mathur	SAC	10:00- 10:15
6	Antenna Alignment using Close Range Photogrammetry (CRP)	Sh. N H Kinariwala	SAC	10:15-10:45
	Inauguration of Exhibition Tea break			10:45:11:15
7	Spacecraft level Integration of Antenna:- “A Journey from Cube to CRP”	Sh. A V Apte	SAC	11:15-11:45
8	Non Contact metrology in Ground Station antenna	Sh. S G Vaishnav	SAC	11:45-12:15
9	Laser Tracker:- An innovative approach in Non Contact Measurements	Sh. Rajesh R Patel	SAC	12:15-12:45
10	Non Contact Measurements using Laser based Instruments	-	Hexagon Metrology	12:45-13:00
	Lunch Break			13:00-14:00
11	Applications of CRP in Engineering Field	Sh. Anurag Verma	SAC	14:00-14:30
12	Non contact measurement of Snow profiles over Indian glaciers and Antarctica	Sh. Amit Agarwal	SAC	14:30-15:00
13	Non Contact Measurements	-	Automated Precision Inc. (API)	15:00-15:15
14	Software for Non Contact Measurements	-	Polyworks India	15:15-15:30
	Tea Break			15:30-15:45
15	Hardware Exhibition			16:15-17:30