

**GROWTH, CHARACTERIZATION AND
ELECTRICAL STUDIES OF LANTHANUM DOPED BARIUM
AND STRONTIUM TARTRATE CRYSTALS**

*A project work by
KADEEJA E.P
Reg No: 130011009508*

*Under the guidance of
Prof. ALEX SHINU SCARIA
Department of physics
Sacred Heart College, Thevara*

3

*Submitted to Mahatma Gandhi University in partial fulfillment of
the requirement for the award of the degree of
Master of Science in physics
2013-2015*



15

*DEPARTMENT OF PHYSICS
SACRED HEART COLLEGE, THEVARA, COCHIN-13*

**GROWTH, CHARACTERIZATION AND ELECTRICAL
STUDIES OF LANTHANUM DOPED
BARIUM AND STRONTIUM TARTRATE CRYSTALS
PROJECT REPORT**

Submitted by KADEEJA E.P, Reg. No. 130011009508 to the Department of Physics, Sacred Heart College, Thevara on _____ for the approval by the Department and submitted for the viva voce held on _____ at Sacred Heart College, Thevara

EXAMINERS

EXTERNAL EXAMINERS

1.

2.

SACRED HEART COLLEGE
THEVARA, COCHIN-682013
(Affiliated to M.G. University)



DEPARTMENT OF PHYSICS
CERTIFICATE

This is to certify that the report entitled '**GROWTH, CHARACTERIZATION AND ELECTRICAL STUDIES OF LANTHANUM DOPED BARIUM AND STRONTIUM TARTRATE CRYSTALS**' is a bonafide record of the project work done by **KADEEJA E.P**, Reg.No.130011009508 of Sacred Heart College Thevara, during the academic year 2013-2015 and submitted in partial fulfillment of the requirements for the award of Master of Science degree in Physics from M.G. University, Kottayam.

Dr.GEORGEKUTTY JOSEPH
H.O.D & Prof. in charge

Prof. ALEX SHINU SCARIA
Project guide

DECLARATION

I, **KADEEJA E.P**, hereby declare that this report is a bonafide record of the project entitled, '**GROWTH, CHARACTERIZATION AND ELECTRICAL STUDIES OF LANTHANUM DOPED BARIUM AND STRONTIUM TARTRATE CRYSTALS**'. The study has been undertaken in partial fulfillment of the requirements for the award of degree of Master of Science in Physics with specialization in Advanced

Jio Physics

ORIGINALITY REPORT

%**37**
SIMILARITY INDEX

%**33**
INTERNET SOURCES

%**23**
PUBLICATIONS

%**11**
STUDENT PAPERS

PRIMARY SOURCES

1 www.ophiropt.com %**9**
Internet Source

2 www.npl.co.uk %**3**
Internet Source

3 arxiv.org %**2**
Internet Source

4 en.wikipedia.org %**2**
Internet Source

5 www.coherent.com %**2**
Internet Source

6 www.coherent.de %**1**
Internet Source

7 aries.ucsd.edu %**1**
Internet Source

8 www.ukessays.com %**1**
Internet Source

9 clubelec.enserg.fr %**1**
Internet Source

10

Marcos A. de Araújo. "Measurement of Gaussian laser beam radius using the knife-edge technique: improvement on data analysis", Applied Optics, 01/10/2009

Publication

% 1

11

Saleh. "Beam Optics", Wiley Series in Pure and Applied Optics, 08/14/1991

Publication

% 1

12

www.qtdot.org

Internet Source

% 1

13

www.newport.com

Internet Source

% 1

14

Zhao, Yan, Michael A. Mastanduno, Shudong

Jiang, Fadi El-Ghussein, Junging Xu, Jiang Gui, Brian W. Pogue, and Keith D. Paulsen.

"Systematic optimization of MRI guided near infrared diffuse optical spectroscopy in breast", Multimodal Biomedical Imaging X, 2015.

Publication

<% 1

15

arizona.openrepository.com

Internet Source

<% 1

16

discovery.dundee.ac.uk

Internet Source

<% 1

17

www.photonics.com

Internet Source

<% 1

18	issuu.com Internet Source	<% 1
19	www.coursehero.com Internet Source	<% 1
20	vi.wikipedia.org Internet Source	<% 1
21	MacGregor, Andrew. "Know your beam.(BEAM PROFILING)", Laser Focus World, May 2006 Issue Publication	<% 1
22	Luciano Bachmann. "Determination of Beam Width and Quality for Pulsed Lasers Using the Knife-Edge Method", Instrumentation Science & Technology, 2003 Publication	<% 1
23	Liu, Huixia, Wei Liu, Xuejiao Zhong, Baoguang Liu, Dehui Guo, and Xiao Wang. "Modeling of laser heat source considering light scattering during laser transmission welding", Materials & Design, 2016. Publication	<% 1
24	research.sabanciuniv.edu Internet Source	<% 1
25	www.phys.ncyu.edu.tw Internet Source	<% 1

26	archiv.ub.uni-heidelberg.de Internet Source	<%1
27	Scaggs, Michael, Gil Haas, Alan H. Paxton, and Vladimir S. Ilchenko. "", Laser Resonators and Beam Control XIII, 2011. Publication	<%1
28	Submitted to Trinity College Dublin Student Paper	<%1
29	osaptesting.osa.org Internet Source	<%1
30	dspace.aus.edu Internet Source	<%1
31	Submitted to Michigan Technological University Student Paper	<%1
32	www.pi5.uni-stuttgart.de Internet Source	<%1
33	Submitted to University College London Student Paper	<%1
34	laser.physics.sunysb.edu Internet Source	<%1
35	Submitted to Koc University Student Paper	<%1
36	calhoun.nps.edu Internet Source	<%1

37	Submitted to Higher Education Commission Pakistan Student Paper	<% 1
38	microimpex.in Internet Source	<% 1
39	www.journalamme.org Internet Source	<% 1
40	Optical Resonators, 1997. Publication	<% 1
41	Submitted to Okaloosa-Walton Community College Student Paper	<% 1
42	tesisenxarxa.net Internet Source	<% 1
43	Submitted to University of Sydney Student Paper	<% 1
44	Submitted to University of Liverpool Student Paper	<% 1
45	Submitted to Imperial College of Science, Technology and Medicine Student Paper	<% 1
46	dspace.cc.tut.fi Internet Source	<% 1
47	www.dafx.ca Internet Source	<% 1

48	Tripathi, Ajay. "Experimental studies of evaporative cooling and Bose Einstein condensation in an optical trap", Universität Freiburg, 2007.	<% 1
----	--	------

Publication

49	Michael W. Sasnett, Timothy J. Johnston. "", SPIE-Intl Soc Optical Eng, 1991	<% 1
----	--	------

Publication

50	Suzaki, Yasuzi, and Atsushi Tachibana. "Measurement of the μm sized radius of Gaussian laser beam using the scanning knife-edge", Applied Optics, 1975.	<% 1
----	--	------

Publication

51	Submitted to University of Leeds	<% 1
----	----------------------------------	------

Student Paper

52	S K Tiwari. "Measuring a narrow Bessel beam spot by scanning a charge-coupled device (CCD) pixel", Measurement Science and Technology, 02/01/2010	<% 1
----	---	------

Publication

53	plumbot.com	<% 1
----	-------------	------

Internet Source

54	Scaggs, Michael, Gil Haas, Alan H. Paxton, and Vladimir S. Ilchenko. "", Laser Resonators Microresonators and Beam Control XIV, 2012.	<% 1
----	---	------

Publication

55	Kuang-Chao Fan. "Development of a high-precision straightness measuring system with DVD pick-up head", Measurement Science and Technology, 01/01/2003 Publication	<% 1
56	Submitted to King Mongkut's Institute of Technology Ladkrabang Student Paper	<% 1
57	Submitted to University of Strathclyde Student Paper	<% 1
58	www.rp-photonics.com Internet Source	<% 1
59	www.ira.uka.de Internet Source	<% 1
60	www.dtic.mil Internet Source	<% 1
61	www.absoluteastronomy.com Internet Source	<% 1
62	unit.xjtu.edu.cn Internet Source	<% 1
63	Springer Series in Optical Sciences, 2012. Publication	<% 1
64	www.medbib.com Internet Source	<% 1

65

T. W. Ng. "Gaussian laser beam diameter measurement using a quadrant photodiode", Review of Scientific Instruments, 2005

Publication

<% 1

66

www.ucm.es

Internet Source

<% 1

67

A. Rose. "Laser beam profile measurement by photothermal deflection technique", Applied Optics, 06/01/1986

Publication

<% 1

68

Eyring, Stefan. "Extremely Nonlinear Optics with wavefront controlled ultra-short laser pulses", Universität Würzburg, 2012.

Publication

<% 1

69

Roundy, Carlos. "Current Technology of Beam Profile Measurements", Optical Science and Engineering, 2000.

Publication

<% 1

70

Sheu, Fang-Wen Chang, Ching-Huang.

"Measurement of the intensity profile of a Gaussian laser beam near its focus using an optical fiber.", American Journal of Physics, Oct 2007 Issue

Publication

<% 1

71

Chih-Liang Chu. "Two-dimensional optical accelerometer based on commercial DVD pick-

<% 1

up head", Measurement Science and
Technology, 01/01/2007
Publication

EXCLUDE QUOTES	OFF	EXCLUDE MATCHES	OFF
EXCLUDE BIBLIOGRAPHY	OFF		