

SSM INSTITUTE OF ENGINEERING AND TECHNOLOGY

Dindigul - Palani Highway, Dindigul - 624 002.

Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai Accredited by NAAC (2019-2024) & NBA - ECE, EEE & MECH (2022-2025)





NATIONAL CONFERENCE AND EXHIBITION ON RURAL INNOVATIONS

Organized by

Unnat Bharat Abhiyan SSM Institute of Engineering and Technology

Certificate

This is to certify that Prof /Dr. S. Keonthana Department of ECE, SSM Institute of

Engg & Tech presented a paper on Study on Basic laws of Electromagnetics

Fiding Scientidic Applications in modicine in the NATIONAL CONFERENCE AND EXHIBITION

ON RURAL INNOVATIONS (NCERI-23) Organized by Unnat Bharat Abhiyan SSM Institute of Engineering and

on 24th and 25th March 2023.

Dr. K. Vinoth Kumar Convener Dr.D.SENTHIL KUMARAN, M.E., Ph.D., (NUS)

SSM Institute of Engineering and Technology Kuttathupatti Village, Sindalagundu (Po),

Prof. K. Ravichandran Road, Dindigul - 624 00 Dr. D. Senthil Kumaran UBA Regional Coordinator Principal



STUDY ON BASIC LAWS OF ELECTROMAGNETICS AIDING SCIENTIFIC APPLICATIONS IN MEDICINE AND HEALTHCARE

S. Keerthana^a, S. Swetha^b, G. Indumathi^c

^aAssistant Professor, Department of Electronics and Communication Engineering, SSM Institute of Engineering and Technology, Dindigul.

^bStudent, Department of Electronics and Communication Engineering, SSM Institute of Engineering and Technology, Dindigul.

^e Professor, Department of Electronics and Communication Engineering, Mepco Schlenk Engineering College, (Autonomous), Sivakasi.

Corresponding Author Name & Email id: S. Keerthana & keerthana.viswa@gmail.com

Abstract

The topic of electromagnetism can be both confusing and controversial, yet it is intriguing and fascinating. The history of electromagnetic field (EMF) applications and research has been mired in secrecy and suspicion. Here usage of EMF in medicine and health care is described with important fundamentals terms and parameters. This paper presents natural exposures to a variety of electromagnetic phenomena and proper consideration of electromagnetic hygiene measures. The basics laws of electromagnetics like coulomb's law, ampere's law, electric flux density in two-dimensional simulation and electric flux density, electromagnetic waves in three dimensional simulations had been demonstrated using MATLAB. The mentioned basic laws had been studied relating it's the practical use in medicine and health care.

Keywords—Electromagnetic Field, Electromagnetic Waves, Coulombs Law, Ampere's Law, Electric Flux Density, Electromagnetic Spectrum, Medical Treatments.



Dr.D.SENTHIL KUMARAN, M.E., Ph.D., (NUS)
Principal

SSM Institute of Engineering and Technology
Kurtathupatti Village, Sindalagundu (Po),
Palani Road, Dindigul - 624 002.

ISBN 978-93-91347-59-8