VISION AND MISSION

INSTITUTE MISSION & VISION

MISSION

BIET contribute to the growth and development of its students by imparting a broad -based engineering education and empowering them to be successful in their chosen field by inculating in them in positive approach. Leadership qualities and ethical values.

VISION

To be a center of excellance recognized nationally and internationally, indistinctive areas of engineering education and research, based on a culture of innovation and invention.

DEPARTMENT MISSION & VISION

MISSION

M_1. : Enabling the students to discover their talents both in theory and practical, through dedication to teach, innovative instructional methods and working models.

M2. : Working closely with other faculties of different discipline that will eminence the value of institution.

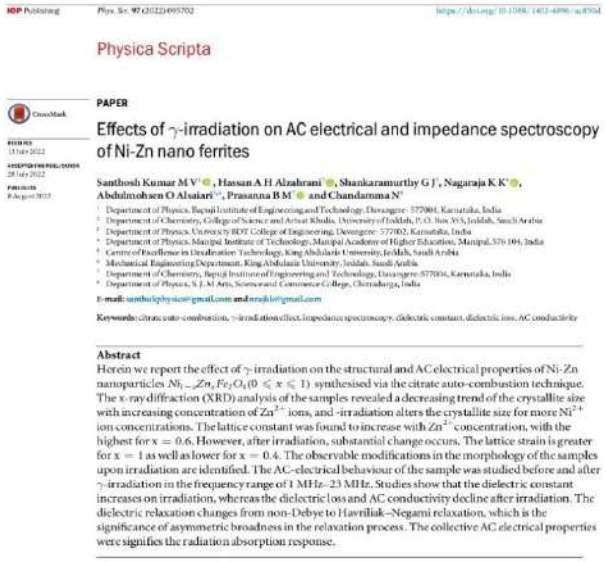
M3. : To develop organizational skills, core competence and ethics in first year engineering students that they need, as true professional for achieving success in life.

VISION

To integrate science and technology as a foundation for excellence and encourage the development by providing the fundamental scientific and technical knowledge about physical phenomena as a professional course in engineering and technology.

RESEARCH ARTICLE PUBLISHED

1. Santhosh Kumar M V et al., published the research article on "*Effects of γ-irradiation on AC electrical and impedance spectroscopy of Ni-Zn nano ferrites*", **Phys. Scr**. 97 (2022) 095702



Physica Scripta

PAPER

Effects of γ-irradiation on AC electrical and impedance spectroscopy of Ni-Zn nano ferrites

Santhosh Kumar M V, Hassan A H Alzahrani, Shankaramurthy G J, Nagaraja K K, Abdulmohsen O Alsaiari, Prasanna B M and Chandramma N

Abstract

Herein we report the effect of γ-irradiation on the structural and AC electrical properties of Ni-Zn nanoparticles $Ni_{1-x}Zn_xFe_2O_4$ ($0 \leqslant x \leqslant 1$) synthesised via the citrate auto-combustion technique. The x-ray diffraction (XRD) analysis of the samples revealed a decreasing trend of the crystallite size with increasing concentration of Zn^{2+} ions, and -irradiation alters the crystallite size for more Ni^{2+} ion concentrations. The lattice constant was found to increase with Zn^{2+} concentration, with the highest for $x = 0.6$. However, after irradiation, substantial change occurs. The lattice strain is greater for $x = 1$ as well as lower for $x = 0.4$. The observable modifications in the morphology of the samples upon irradiation are identified. The AC-electrical behaviour of the sample was studied before and after γ-irradiation in the frequency range of 1 MHz–23 MHz. Studies show that the dielectric constant increases on irradiation, whereas the dielectric loss and AC conductivity decline after irradiation. The dielectric relaxation changes from non-Debye to Havriliak–Negami relaxation, which is the significance of asymmetric broadness in the relaxation process. The collective AC electrical properties were signifies the radiation absorption response.

2. M. R. Jagadeesh et al., published a research article entitled *"Growth and characterization of L-ornithine monohydrochloride single crystal doped with Co2+ and Mn2+ ions for NLO applications"* **J Mater Sci: Mater Electron** 33 (2022) 26706–26716.

J Mater Sci: Mater Electron (2022) 33:26706–26716

Growth and characterization of L-ornithine monohydrochloride single crystal doped with Co^{2+} and Mn^{2+} ions for NLO applications

B. Suresh Kumar, M. R. Jagadeesh, and H. M. Suresh Kumar

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ABSTRACT

This work aims at investigating the influence of Co^{2+} and Mn^{2+} metal ions on the properties of L-ornithine monohydrochloride (LOMHC) single crystals, which were grown by slow evaporation technique. The crystals were examined by different analytical tools. The structural study revealed that crystals are belonged to a monoclinic system with noncentrosymmetric space group $P2_1$. The presence of dopants in the LOMHC was confirmed by PXRD and EDAX analysis. The doped crystals showed a wide transmission window and have superior transmittance to that of pure crystal. Also, the energy gap is increased. From TG-DSC investigations, the thermal stability of LOMHC crystal did not change considerably upon doping. The behaviour of dielectric constant and dielectric loss as a function of frequency for pure and doped crystals were studied. The integration of metal ions makes LOMHC into a ferromagnetic material. Among the dopants, Mn^{2+} doped LOMHC showed higher second-harmonic generation (SHG) efficiency.

3. Krishna Kumar T K et al., published the research article on "Mathematical Study on Thermal Pollution with Reference to Diffusional Transfer of Dispersants" **Aryabhata Journal of Mathematics and Informatics**, 14(2022) 01-06.

MATHEMATICAL STUDY ON THERMAL POLLUTION WITH REFERENCE TO DIFFUSIONAL TRANSFER OF DISPERSANTS

M. L. Mallikarjuna*, V.K. Katiyar**, K.S. Basavarajappa***, Krishna Kumar T.K****

ABSTRACT

Mathematical study has been developed to analyze the thermal pollution using continuity equation. The diffusion equation is a partial differential equation consists of thermal dispersants such as tracer concentration C(x, t) and longitudinal mixing coefficient with respect to x, y and z directions at time t. The diffusion equation represents the dispersants has been solved analytically and the range of dispersion is considered for the range of 10ft to 1000ft. Fully mixed contour defined by equation gives the dispersants surroundings, the area as computed for solving partial differential equation (diffusion equation)

Key words: Dispersants, Pollution, Thermal

INTRODUCTION

Pollution occurs in the nature in various forms such as: industrial pollution, air pollution, water pollution, Toxic pollution, soil pollution, noise pollution and Thermal pollution. Direct effect of pollution on the surrounding vegetarian and life can always be determined by estimating the extent of pollution in a given industrial domain or land area. Therefore the pollution may be in terms of chemical or biological gases, fumes, particulate matter, polluted land and water resources. To explore the potential threat of thermal pollution which exists in the surrounding environment is studied using mathematical model. Pollution, is an undesirable change in the physical, chemical or biological characteristics of our air, land and water that may or will harmful and affect the living conditions. The thermal pollution problem consists of the larger use of electric energy, growth and construction of new electricity generating stations, and fossil fuels to nuclear reactors. There is also heat addition takes place due to industrial waste heat to waterways which increases in the heat load of the waters moderately. Also municipal discharge and irrigation return waters also causes thermal pollution. Return flows from irrigation fields are also a thermal pollutant. As in any environmental situation the actual rise is a function of initial water temperature, volume of abstraction, velocity of flow, length of time in field, and climatic conditions.

Invited Talk

Dr. Jagadeesh M R has delivered invited talk on "Crystal growth and characterization" on 1st Sept 2022 at Department of Physics, Siddaganga Institute of Technology, Tumakuru.

Patent Published

Dr. Jagadeesh M R has published an Indian Patent on Principles of Green Sustainability and Physics as a basis for low-carbon Energy transition. Type: Indian Patent on November 2022

Recognition

Dr. Jagadeesh M R Nominated as District director for Davangere for National Council for Teacher Scientist (NCTS) from September 2022.

FDP/WORKSHOP ATTENDED

1. Dr. Santhosh Kumar M V has participated and successfully completed the *"5-day Online FDP on the theme "Inculcating Universal Human Values in Technical Education"* organized by All India Council for Technical Education (AICTE) from 5th December to 09th December 2022


ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
NELSON MANDELA MARG, VASANT KUNJ, NEW DELHI

Certificate of Participation

This is to certify that Dr. Santhosh Kumar M V from Bapuji Institute of Engineering and Technology, Davanagere has participated and successfully completed the 5-day Online FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education (AICTE) from 05th December to 09th December 2022.

Dr. Rajneesh Arora
Chairman
National Coordination Committee for Induction Program

Prof. Rajive Kumar
Member Secretary, AICTE

2. Krishna Kumar T K has been


Poorna Educational and Social Trust (R)
PES Institute of Technology and Management
Department of Basic Science
National Conference on
"Recent Trends in Applied Science"
E-Certificate

This is to certify that Dr. Krishnakumar T K, Bapuji Institute of Engineering & Technology, Davanagere has participated and presented the paper entitled A Study on Linear Attenuation Coefficient and Linear Dependence on Atomic Number (Z) Of a Polymer and Cowdung in the National Conference on 'Recent Trends in Applied Science' organized by Department of Basic Science, PES Institute of Technology and Management, Shivamogga, India, in association with IQAC & ISTE held on 8th June 2022.

Dr. Pramod Gopal Pai
Coordinator

Dr. Avvosh S.T.
Convener

Dr. Chaitanya Kumar M.V.
Principal

attended /presented National conference on recent trends in applied science entitled "A Study on Linear Attenuation Coefficient and Linear Dependence on Atomic Number (Z) Of a Polymer and Cowdung" organized by Department of Physics, Chemistry and Mathematics, PES Institute of Technology and Management, Shivamogga,on 8th June 2022.

3. Krishna Kumar T K has been attended /presented a research paper entitled "Mathematical Study on the Effect of Thermal Pollution on Human Health - A Reference to Cancer Risks" presented at International Conference on "Recent Advances in Fluid Mechanics" (ICRAFM-2022)", organized by Department of Mathematics, Department of Aeronautical Engineering, Department of Mechanical and Industrial Engineering, Manipal Institute of Technology, Manipal, on 14th - 16th October 2022.


MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
Department of Mathematics
Department of Aeronautical & Automobile Engineering
Department of Mechanical & Industrial Engineering

International Conference on
Recent Advances in Fluid Mechanics
ICRAFM-2022

CERTIFICATE

This is to certify that
Dr. Krishna Kumar T. K.
of Bapuji Institute of Engineering and Technology, Davangere
has participated in the
International Conference on Recent Advances in Fluid Mechanics (ICRAFM-2022)
held at Manipal Institute of Technology, MAHE, Manipal from 4th to 6th October 2022.

Dr. Manjunatha Gudekote
Convenor

Commander (Dr) Anil Rana
Director MIT Manipal

STUDENT AICTE ACTIVITY

The AICTE Activity point program was organized by the Department of physics, BIET Davanagere from 3rd march 2021 to 4th March 2022. The first semester students had participated the event on “educating the students”. Activity the students have visited the village in Naganur which is 5km from Davanagere district There our student’s spread awareness to the govt. school students about health and hygiene, environment and pollution. In the village, school, and even few public places as a part of our activity program.