

International Conference on Physics – 2022

19-21 May 2022

PROGRAMME

19th May 2022 (Thursday)

Venue: Atomic Energy Centre Dhaka

Time : 9:00 AM
Registration of the Participants

Inaugural Session : 11:00 – 12:00

Venue : Auditorium, Atomic Energy Centre Dhaka

Session (I): Plenary Session

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: 12:10– 13:10

Chair : Prof. Mesbahuddin Ahmed

Discussant : Prof. Abu Hashan Bhuiyan

Plenary talk:

[30+30 minutes]

PT-01: Nanotechnology and 4th Industrial Revolution: Bangladesh Perspective; **A. K. M. A. Hakim, BUET**

PT-02: Nuclear Power Program and Development: Bangladesh Perspective; **Mohammad Shawkat Akbar, BAEC**

Lunch and Prayer Break: 13:10 – 14:30

Technical Sessions Programme

Session (IIA): Theoretical and Computational Physics-I

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: 14:30 – 16:00

Chair : Prof. Saleh Hasan Naqib

Co-Chair : Prof. Alamgir Kabir

Invited Talk

[20 minutes]

IT- IIA: Signature of Segregation in the Transport Properties of Liquid Binary Alloys: **G M Bhuiyan, University of Dhaka**

Contributory Papers

[10 minutes per paper]

TCP-01: Wigner Rotation in Different Space-time; **Md. Tarek Hossain**

- TCP-02:** Study of a Thunderstorm Event over Cox's Bazar, Bangladesh Using WRF Model; **Mohammed Mozammel Hoque, Syed Jamal Ahmed, S.M. Quamrul Hassan, M.A.K. Mallik, Md. Omar Faruq**
- TCP-03:** Vortex Configurations of a Nano-sized Superconducting 3D Pyramidal Confinement; **Abul Hasnat Rubel**
- TCP-04:** A Study of Volume Dependence Second and Third Order Grüneisen Parameter for Solid; **Sumal Chandra**
- TCP-05:** How H463R variant turns hKv1.5 into a loss of functional channel: A MD simulation study; **Md Harunur Rashid**
- TCP-06:** Possible Inconsistencies of Schwarzschild metric to Study Black Holes; **Sheikh Jafrul Hassan**
- TCP-07:** Consequences of Quantum Effects in Superconductor; **M.R. Islam**

Session (IIB): Electronics and ICT

Venue: Classroom, Atomic Energy Centre Dhaka

Time: 14:30 – 16:00

Chair : Dr. Md. Shakil Ahmed

Co-Chair : Dr. Imtiaz Ahmed

Invited Talk

[20 minutes]

IT-IIB: Active Integrated Array Antenna for Next Generation Wireless Communication Systems – Challenge to Advanced Antenna Utilizing Spatial Parameter of Radio Wave: **Ichihiko Toyoda, Saga University, Japan**

Contributory Papers

[10 minutes per paper]

- EICT-01:** A Secured Steganography Technique to Concealed Data Within Image; **Mohammed Asraf Uddin, Md. Shamimul Islam, Md. Haidar Ali, Nayan Kumar Datta, Md. Imran Hossain Showrov, Md. Shafiqul Islam**
- IECT-02:** Threat Minimization in Email Using Data Mining In Banking Sector; **Md. Haidar Ali, Md. Imran Hossain Showrov, Md. Shamimul Islam, Mohammed Asraf Uddin, Nayan Kumar Datta, Md. Shafiqul Islam**
- EICT-03:** Implementation of E-Learning Using Moodle in Nuclear Education; **Md. Shamimul Islam, Imran Hossain Sowrov, Nayan Kumar Datta, Md. Haidar Ali, Mohammed Asraf Uddin**
- EICT-04:** A Private Cloud Configuration to Overcome the 'Big Data' Challenges of Bangladesh Atomic Energy Commission (BAEC); **Nuba Shittain Mitu, Md Dulal Hossain**
- EICT-05:** Apache Hadoop Platform: A 'Big Data' Storage and Management Solution of the Data Warehouses; **Nuba Shittain Mitu, Karim Ouazzane**
- EICT-06:** Channel Estimation and Signal Detection in OFDM system using Deep Learning and its performance on Digital Modulation; **Md Matiqul Islam, Md Ashraful Islam, Md Najmul Hossain**
- EICT-07:** Problematic/Excessive phone, computer, and online use among Bangladeshi Nationals amid COVID-19: the role of psychological well-being and pandemic related factors; **Munima Haque, Md. Kamrul Hossain, Md. Quamruzzaman, Md. Shohag Hossain**

Tea Break : 16:00 – 16:20

Session (IIIA): Health and Radiation Physics
Venue: Auditorium, Atomic Energy Centre Dhaka
Time: 16:20 – 18:10

Chair : Dr. Syed Mohammad Kamal
 Co-Chair : Prof. Suranjan Kumar Das

Invited Talk **[20 minutes]**

IT-IIIA: The role of Nuclear Data for Production of Diagnostic and Theranostic Radionuclides: **Mayeen Uddin Khandaker, Sunway University, Malaysia**

Contributory Papers **[10 minutes per paper]**

- HRP-01:** Experimental Research on Net Vapor Generation Point Under In-Vessel Retention Conditions; **M. A. Rafiq Akand, M. K. Basher, S. M. Amir-Al-Zumahi, M. Shah Alam and M. A Sayid Haque**
- HRP-02:** Characterization of LiF:Mg,Ti Crystal Dosimeters (MTS-100) for the Dosimetry of ⁶⁰Co Photon Beam; **M. J. Hossain, N. Arobib, T. Siddiquab, S. Purohit, H. M. Jamil, M. M. H. Bhuiyan, AKM M. H. Meaze, M. S. Rahman**
- HRP-03:** Measurement of Natural Radioactivity Levels in Soil, Sediment, and Water Samples Collected from the Padma River around Rooppur, Bangladesh; **Aurpon Sen, Shampa Paul, M. A. Haydar, Kanij Fatema, Kutub Uddin**
- HRP-04:** Temporal Variation of Natural Radioactivity and Evaluation of Radiological Hazards in Sediment Cores of Sundarban, Bangladesh; **Shaiful Kabir, Mohammad Amirul Islam, UmmaTamim, Mohammad Belal Hossen**
- HRP-05:** GIS Predictive Mapping of Absorbed Dose Rate and Activity Concentrations of NORMs in Bangladesh; **Md. Ashik Azad Khan Anik, Nighat Sultana Reshma, AKM Saiful Islam Bhuian, Quazi Muhammad Rashed Nizam**
- HRP-06:** γ -radiation Induced Hydrogels in Removal of Dyes and Heavy Metals; **Tanvir Ahmed, Md. Saifur Rahaman, Shah. Md. Marzuk Hasnine, Salma Sultana**
- HRP-07:** Synthesis of Proton Exchange Membrane by Radiation Grafting; **Shahnaz Sultana, Nazia Rahman, Md. Nabul Sardar, Rahim miah, Humaun Kabir**
- HRP-08:** Commissioning of Co-60 Teletherapy Machine at SSDL, Bangladesh: Verification and Measurements of Imperative Machine Parameters during Installation; **M. A. Aziz, T. Siddiqua, H. M. Jamil, N. Arobi, M. M. H. Bhuiyan, S. Purohit, AKM M. H. Meaze, M. S. Rahman**
- HRP-09:** Determination of Gross Alpha Radioactivity in Surface Water Collected from Twenty-Three Major Geographical Regions from Central Point of Dhaka City: **M. F. Kabir, N. Sultana, J. Ferdousy, N. Hassan, S. Banik, S. Pervin, M.M.M Siraz, S. Yeasmin**

Session (IIIB): Materials Science-I
Venue: Classroom, Atomic Energy Centre Dhaka
Time: 16:20 – 18:10

Chair : Dr. Engr. Sheikh Manjura Hoque
 Co-Chair : Dr. Md. Khorshed Alam

Invited Talk **[20 minutes]**

IT-IIIB: Designing the smallest bandgap proper ferroelectric material: **D. D. Sarma, IISc, India**

Contributory Papers**[10 minutes per paper]**

- MS-01:** Study on the Effectiveness of Polyimide and Polyester Polymer for Radiation Shielding in A Spacecraft Forlong Term Space Mission; **Md. Abdullah Al Zaman, Md. Rafiqul Islam, H. M. A. R. Maruf, Quazi Muhammad Rashed Nizam**
- MS-02:** Chemical Vapor Deposition Synthesis of Lead-Free All-Inorganic Cs₃Sb₂I₉ Perovskite Microplates for Ultra-Fast Photoconductive Response and Robust Thermal Stability; **Sujit Kumer Shil, Fei Wang, Kin Man Yu**
- MS-03:** The Influence of Magnesium Doping on BaZr_{0.5}Y_{0.5-x}Mg_xO₃ Perovskite Oxide for Applications in Solid Oxide Fuel Cell; **Zerin Tasnim, Fariha Tasnim, I. N. Esha, J. Maudood, M. S. Islam, M. N. I. Khan, M. A. Mamun, S. Hossain, Kazi Haniem Maria**
- MS-04:** Effect of Samarium on Electrical Properties of Lanthanum Ferrite Nanoparticles; **Shovan Kumar Kundua, Dhiraj Kumar Rana, Soumen Basu**
- MS-05:** Impact of Yttrium and Lanthanum on Structural, Optical, Electrical and Magnetic Properties of Cobalt Ferrites nanoparticle; **Nazia Khatun, Sajib Ahamed, Mohammad Sajjad Hossain, Md. Al- Mamun**
- MS-06:** Validate the Improvement of Footprint of the Female Connector on PCB Surface by Using HFSS; **Md. Ashraful Islam, Md. Matiqul Islam , Md. Firoz Ahmed, Md. Najmul Hossain, Md. Hasnat Kobir**
- MS-07:** A Systematic Study of Structural, Electronic and Optical Properties of MoTe₂ in Bulk and 2D Monolayer Structures; **M. Kamruzzaman, M. Khuku Moni, M. Hossain, M. Aktary**
- MS-08:** Study on Hydrogen Isotopes Behavior in Proton-Conducting Oxides by TDS and TMAP₄ Simulation; **M. Khalid Hossain, Kenichi Hashizum**
- MS-09:** Study of the Structural, Electrical, And Magnetic Properties of (Fe₉₅Ti₅)₇₅P₁₅C₁₀ Amorphous Ribbon; **A. Mortaza, M. Aminul Islam, R. Rashid, M. N. I. Khan and M. K. Alam**

20th May 2022 (Friday)**Session (IVA): Nanomaterials-I****Venue: Auditorium, Atomic Energy Centre Dhaka****Time: 9:00 – 11:00**

Chair : Prof. Shibendra Shekher Sikder
 Co-Chair : Dr. M. Khurshed Alam

Invited Talk**[20 minutes]**

- IT-IVA:** Innovations through Poor Man's Nanotechnology: From the Lab to the Market: **Sunandan Baruah, Assam University, India**

Contributory Papers**[10 minutes per paper]**

- NM-01:** Synthesis and Characterization of pH Controlled Biogenic Silver Nanoparticles Using Szygium cymosum Leaf Extract and Investigation of Their Potential Biomedical Applications; **Kazi Mustafa Mahmud, Md. Ashraful Hasan, Satya Ranjan Sarker, Mohammad Mahfuz Ali Khan Shawan, Masato Takikawa, Shinji Takeoka, Md. Salman Shakil, Md. Monir Hossain, Shakil Ahmed Polash, Mahruba Sultana Niloy, Md. Forhad Uddin, Morshed Alam**

- NM-02:** Investigation of antimicrobial activity and biocompatibility of biogenic silver nanoparticles synthesized using *Syzygium cymosum* extract; **Kazi Mustafa Mahmud, Md. Monir Hossain, Shakil Ahmed Polash, Masato Takikawa, Md. Salman Shakil, Md Forhad Uddin, Morshed Alam, Mohammad Mahfuz Ali Khan Shawan, Tanushree Saha, Shinji Takeoka, Md. Ashraful Hasan, Satya Ranjan Sarker**
- NM-03:** Study of the Influence of Annealing Temperatures on CdS Nanoparticles Synthesized by Chemical Precipitation Method; **F. T. Z. Toma, K. M. A. Hussain, M. S. Rahman, H. Das, M. N. I. Khan**
- NM-04:** Co_3O_4 decorated three dimensional MoS_2 nanoflower for stable supercapacitor electrode with improved capacitive performance; **Md. Hasive Ahmad, Rabeya Binta Alam, Muhammad Rakibul Islam**
- NM-05:** Effects of Cr doping on the structural and electromagnetic properties of Cu Mg nanoferrites prepared by the sol gel method; **Sumi Akter , M.N.I. Khan , Faria Ferdous, R. Hasan, H. N. Das, Ishtiaque M. Syed**
- NM-06:** Sol-gel synthesized double perovskite $\text{Nd}_2\text{FeCrO}_6$: Structure and magnetic properties; **Fahmida Sharmin, Ferdous Ara, Rana Hossain, Subrata Das, M.D.I Bhuyan, and M. A. Basith**
- NM-07:** Effect of sintering temperature on dielectric and optical properties of Na-montmorillonite supported NiFe_2O_4 nanocomposites; **M. A. Dipty, M. Shorifullah, S. Islam, N. Khatun, N. I. Tanvir, S. K. Sen, T. C. Paul, P. Bala**
- NM-08:** Microstructural parameters analysis of hydrothermally synthesized Mg-doped SnO_2 nanoparticles with Debye-Scherrer, Williamson-Hall and Halder-Weigner methods; **Pooja Sarker , Sapan Kumer Sen, Abdul Al Mortuza, M. S. Manir, M. Razibul Hasan**
- NM-09:** Natural Antioxidant Based Synthesis of Magnetic Silver Nanoparticles Using Some Medicinal Leaves And Their Applications Against Cancerous Cell And Multidrug-Resistant Strains: **M. F. Kabir; M. Z. Rahman; J. Ferdousy; A.K.M. Atique Ullah; M. M. Rahman; M.N.I. Khan**

Session (IVB): Theoretical and Computational Physics-II

Venue: Classroom, Atomic Energy Centre Dhaka

Time: 9:00 – 11:00

Chair : Prof. G. M. Bhuiyan

Co-Chair : Prof. Ratan C. Gosh

Invited Talk

[20 minutes]

IT-IVB: Fluctuation diamagnetism in Y123: implications on the origin of the normal state pseudogap: **Ayesha Siddika Borna, R. S. Islam, S. H. Naqib, University of Rajshahi**

Contributory Papers

[10 minutes per paper]

- TCP-08:** Electronic, magnetic, and optical properties of the Heusler compounds $\text{NbMn}_2(\text{Si}, \text{Ge})$ using TB-mBJ potential; **Mohammad Abdur Rashid, Md. Ohiduzzaman**
- TCP-09:** Structural, electronic and optical properties of Sn doped cubic ZnS solid solution: First-principles study; **Md. Borhanul Asfia, Mohammad Abdur Rashid**
- TCP-10:** Influence of M atomic species on physical properties of MAX phases M_2TIC (M= Ti, Zr, Hf): a DFT calculations; **M. Soheli, M. A. Ali, M. M. Hossain, S. H. Naqib, A. K. M. A. Islam, M. M. Uddin**

- TCP-11:** Ternary Scandium based Antiperovskites Sc_3GaX ($X=\text{B}, \text{N}$): DFT Study; **Istiak Ahmed, F. Parvin, A.K.M. A. Islam**
- TCP-12:** Band gap engineering of cubic halide RbSrCl_3 perovskite under pressure: insights from DFT; **Sahadat Jaman, Md. Borhanul Asfia, Mohammad Abdur Rashid**
- TCP-13:** An ab initio approach to understand the structural, thermophysical, electronic, and optical properties of binary silicide SrSi_2 : A double Weyl semimetal; **Suptajoy Barua, B. Rahman Rano, Ishtiaque M. Syed, S. H. Naqib**
- TCP-14:** DFT insights into the new Hf-based chalcogenide MAX phase Hf_2SeC ; **M. A. Alia, Muhammad Waqas Qureshib**
- TCP-15:** Potentials for $\alpha^{+50,52,53}\text{Cr}$, $\alpha^{+63,65}\text{Cu}$, $\alpha^{+64,66,70}\text{Zn}$ and $\alpha^{+70,72}\text{Ge}$ Elastic Scattering at 25.0 MeV; **Mohammad Ullah, M. Nure Alam Abdullah**
- TCP-16:** Elastic, electronic, bonding, optoelectronic and thermos physical properties of SnTaS_2 : comprehensive insights from ab-initio calculations: **M. I. Naher, M. Mahamudujjaman, A. Tasnim, S. H. Naqib**

Tea Break : 11:00 – 11:10

Session (VA): Reactor and Nuclear Physics

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: 11:20 – 12:50

Chair : Dr Shafiqul Islam Bhuiyan

Co-Chair : Dr. Md. Kabir Hossain

Contributory Papers

[10 minutes per paper]

- RNP-01:** Sodium-cooled Long-life Fast Core Burnup Study with Serpent; **S. M. Shauddin, Toru Obara, Hai-kun, Nishiyama-sensei, M. J. H. Khan**
- RNP-02:** Particle Sedimentation and Bed Formation Behavior in Severe Accident of Nuclear Reactors; **Md Abdur Rob Sheikh, Md Maidul Islam**
- RNP-03:** Internal Morphology Study of Madupur Clay Based Cox's Bazar Beach Sand and Minerals Incorporated Indigenous Radiation Shielding Composites by Thermal Neutron Imaging Using TRIGA Mark-II Research Reactor; **M. Mahfujur Rahman, M. Shamsuzzaman, R. A. Ramon, Mohammad Rajib, M. Al-Mamun, S. Sultana, Shakhawat H. Firoz**
- RNP-04:** Radiological Dose Assessment Using RASCAL 4.3 Code for Postulated Severe Accidental Conditionsof VVER-1200 Type Reactor; **M. Abu Khaer, S. Sultana Shiuli, M. Mominul Islam, M. Ajjul Hoq, M. Tareque Chowdhury, M. Mizanur Rahman**
- RNP-05:** Coupled neutronics and thermal-hydraulics calculations for VVER-1000 pin cell benchmark; **Mohammad Abdul Motalab, Saad Islam**
- RNP-06:** Extension of the length of operation cycle of the TRIGA MARK II by compacting reactor core with fuels; **M. H. Altaf, M. S. Mahmood, S. M. Shauddin, M. A. Motalab and M. J. H Khan**
- RNP-07:** Numerical Studies of Plasma Pinch Properties in a Mega Joule Plasma Focus Device Using Lee Model Code; **M N Huda, M A Malek, M K Islam**
- RNP-08:** On Fuel Loading Strategy of BAEC TRIGA Research Reactor (BTRR); **M. A. Motalab, M. S. Mahmood, J. H. Khan**
- RNP-09:** Supply Chain system for Sustainable Nuclear Power Plant in Bangladesh; **Mohammad Ashrafu Huq, Md Saadbin Chowdhury, Rajib Goswami, Mohammad Shawkat Akbar**

RNP-10: Application of NAA for elemental analysis of sediments from the Padma river adjacent to Rooppur Nuclear Power Plant area: **Abu Sayed Mohammed Sayam, Mohammad Amirul Islam, Kamrun Naher, Rahat Khan, Umma Tamim, Mohammad Monzur Hossain Khan**

Session (VB): Thin Film

Venue: Classroom, Atomic Energy Centre Dhaka

Time: 11:10 – 12:50

Chair : Prof. Abu Talib Md. Kaosar Jamil

Co-Chair : Dr. Md. Tareq Chowdhury

Invited Talk

[20 minutes]

IT-VB: Materials for Stable Perovskite Solar Cells: Advances, Challenges and Opportunities: Md. Akhtaruzzaman, **The National University of Malaysia, Malaysia**

Contributory Papers

[10 minutes per paper]

- TF-01:** Fabrication of $\text{Cu}_2\text{ZnSnS}_4$ (CZTS) thin films by ultrasonic spray pyrolysis at a low substrate temperature and effect of tin concentration on the characteristics of the CZTS thin films; **Munira Sultana, Ayesha Siddika, Syed Shafquat Mahmood, and M. S. Bashar**
- TF-02:** Antimicrobial effect of GO@CuO nanostructured thin film coated leather with enhanced durability against abrasion; **Khandaker Tanzim, M. Nuruzzaman Khan, and Mohammed Mizanur Rahman**
- TF -03:** Investigation of structural, optical and electrical properties of calcium substituted barium titanate thin films for various optoelectronic applications; **Abdul Barik, A. Ahad, M.H. Babu, J. Podder and M. Sharmin**
- TF -04:** Synthesis and Characterization of BaTiO_3 Thin Films from Ball-Milled derived Nanopowder and Precursor Solution by Spin Coating; **M.S. Habib, N.I. Tanvir, M. N. A. Bitu, M.S. Islam, S. Islam, N. Khatun, and S.F.U. Farhad**
- TF -05:** Copper nano-particle doped PEDOT: PSS assisted to enhance the hole transport in thin film perovskite solar cells; **Md. Johurul Islam, Mohammad Jellur Rahman, Md. Shahriar Bashar, Munira Sultana, M. M. Alam;**
- TF -06:** Comparative Studies on the Properties of Nanoparticle and Precursor Solution Derived Wide Bandgap SnO_2 Thin Films Grown by Spin Coating; **M. N. A. Bitu, N.I. Tanvir, M.S. Islam, Md. Saidul Islam, M. S. Quddus, S. Islam, and S.F.U. Farhad**
- TF -07:** Dye sensitized solar cells based on ZnO thin films deposited by ultrasonic spray pyrolysis **A. Rahman, F. Ferdous, M. S. Bashar, S. I. Liba, M. A. Bhuiyan, I. M. Syed**
- TF -08:** Coffee Ring Free CAAC ZnO Thin Film by Spray Pyrolysis for High Performance Thin Film Transistor; **Jewel Kumer Saha, Jin Jang**

Lunch and Prayer Break : 12:50 – 14:30

Session (VIA): Materials Science - II

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: Time: 14:30 – 16:20

Chair : Prof. Md. Manjurul Haque
 Co-Chair : Prof. Jahirul Islam Khandaker

Invited Talk [20 minutes]

IT-VIA: Emergence of Dirac Materials in Carbon Family: **Debnarayan Jana, University of Calcutta, India**

Contributory Papers [10 minutes per paper]

- MS-10:** Investigation through structural, electrical, and magnetic properties of the Al³⁺ ions doped Ni-Zn-Co nano-spinel ferrites; **N. Jahan, M. N. I. Khan, H. N. Das, R. Hasan, S. Manjura Hoque and J. I. Khandaker**
- MS-11:** Structural and Magnetic Properties of Dy Substituted Mg-Cu-Zn Ferrites; **M. Hassan, S. Manjura Hoque, H. N. Das, M. N. I. Khan, F. A. Khan, M. Samir Ullah**
- MS-12:** Ab Initio Study of Structural and Physical Properties of Cd-Based Chloroperovskite XCdCl₃ (X=Ag, K) Structures; **Kamal Hossain, F. Ahmed, S. S. Sikder**
- MS-13:** Influence of reaction temperatures on the particle size of V₂O₅ synthesized by facile hydrothermal technique and their auspicious photocatalytic performance in dye degradation **M A Jalil, M.N.I. Khan, S. Mandal, S. I. Liba, F.-U.-Z. Chowdhury, M.M. Hossain, D. Jana, M. S. Alam, M.M. Uddin**
- MS-14:** X-ray diffraction analysis by Williamson-Hall, Size-Strain Plot and Halder-Wagner methods of Ni_{0.48}Cu_{0.12}Zn_{0.40}Gd_{0.06}Fe_{1.94}O₄- a comparative study; **Bablu Chandra Das, Harinarayan Das, F. Alam, A. K. M. Akther Hossain**
- MS-15:** Influence of Gd³⁺ Substitution on Microstructural, Temperature Dependent Permeability and Electrical Properties of Mn-Ni-Zn Ferrites; **M. Nazrul Islam, Rakibul Hassan, M. N. I. Khan, A. K. M. Akther Hossain**
- MS-16:** Synthesis and compositional analysis of ZnO powder using different chemical precursors: **Mst. Ummay Sumaya, F. T. Z. Toma, I. N. Esha, Arup Kumar, M.A. Zubair, M. N. I. Khan, M. Tarek Chowdhury, M. S. Bashar, Kazi haniem Maria**
- MS-17:** Improvement in structural stability and electronic properties of Perovskite oxide SrZr_{0.5}Y_{0.5-x}Ca_xO₃ by doping Calcium for Solid oxide fuel cell application: **Fariha Tasnim, Zerine Tasnim, I. N. Esha, J. Maudood, M. S. Islam, M. N. I. Khan, M. A. Mamun, S. Hossain, Kazi Hanium Maria**
- MS-18:** Semiconducting to Metallic Phase Transition in AgCdCl₃ Perovskite under Hydrostatic Pressure: **Kamal Hossain, F. Ahmed, S. S. Sikder**

Session (VIB): Medical Physics

Venue: Classroom, Atomic Energy Centre Dhaka

Time: Time: 14:30 – 16:20

Chair : Dr. Md. Shakilur Rahman
 Co-Chair : Prof. Abu Sayem Karal

Invited Talk [20 minutes]

IT-VIB: Scope of Neuroimaging for the Diagnosis of Schizophrenia: Machine Learning-based study as the future of clinical Study: **Indranath Chatterjee, Tongmyong University, South Korea**

Contributory Papers [10 minutes per paper]

- MP-01:** Early Detection of Breast Cancer using Rectangular Patch Microstrip Antenna; **M. Firoz Ahmed, M. Hasnat Kabir and M. Ashraful Islam**
- MP-02:** An Overview on 211At for Targeting Alpha Therapy; **A.K. M. Rezaur Rahman, Kamrul Hasan Nayem, Mahathe Hasan Babu, Mustofa Khalid Ovi**
- MP-03:** Synthesis and characterizations of nanohydroxyapatite (nHAp) from eggshells waste by novel hydrothermal route for biomedical applications; **Md. Hasibuzzaman Rabbi1, Mirza H. K. Rubel, Abu Mahmud, Md. Shariful Islam, M. K. Hossain, A. El-Denglawey**
- MP-04:** Dosimetry of High Energy Electron Beam Delivered from Medical LINAC: A Study of Small Fields; **Santunu Purohit, Md Shakilur Rahman, Md Abul Hasnat, AKM Moinul Haque Meaze**
- MP-05:** Measurement of Dosimetric Errors of TPS Calculations for Radiotherapy Using CIRS Thorax Phantom; **Sultan Mahmud, Md Mokhlesur Rahman, Md Shoorjo Islam Khan, Md Anwarul Islam, Rajada Khatun, Shirin Akter, A N Monika, M M Rahman, M M Ahasan, G A Zakaria**
- MP-06:** Development a dose escalation of IMRT protocol of HN cancer patient based on SBRT treatment procedure; **Farjana Yeasmin, M Jahangir Alam, Kaniz Fatema Kakolee**
- MP-07:** Observing Tumor Ablation of Numerous Soft Tissues using High Intensity Focused Ultrasound Setup; **Anika Tun Naziba, Manika Tun Nafisa and Mohammad Nasir Uddin**
- MP-08:** Effects of physiological parameter evolution on the dynamics of tonic-clonic seizures; **F. Deeba, P. Sanz-Leon, P. A. Robinson**
- MP-09:** Effects of sugar concentration on the electroporation in giant lipid vesicles: **Malay Kumar Sarkar, Md. Kabir Ahamed, Marzuk Ahmed, and Mohammad Abu Sayem Karal**

Tea Break : 16:20 – 16:40

Session (VIIA): Composite and Polymer Physics

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: 16:40 – 18:20

Chair : Prof. Md. Aftab Ali Shaikh

Co-Chair : Prof. Sajal Chandra Mazumdar

Invited Talk

[20 minutes]

IT-VIIA: Smart materials for future technology: Magnetolectric coupling and Multiferroic composites: **A. K. M. Akther Hossain, BUET**

Contributory Papers

[10 minutes per paper]

- CPP-01:** Extraction, optical properties and ageing effect of natural dyes and its impact on the power conversion efficiency of dye-sensitized solar cells; **S. J. Shahrina , M.M.H.Bhuiyan, M.S. Manir, S M Amir-Al Zumahi, F..Kabir, N. Arobi, Md. Khairul Islamd, M. I. Uzzal, M.S. Rahman, M. A. Rafiq Akand, M Mahbubur Rahman**
- CPP-02:** Enhancing the power conversation efficiency of Dye sensitized solar cells by using an alternative electrolyte to conventional Electrolyte; **M. I. Uzzal, M. M. H. Bhuiyan, M. S. Manir, M.S. Rahman, F. Kabir, S. J. Shahrin, R.K.Mazumdar, R. A. Khan**
- CPP-03:** Preparation of cellulose nanofiber-leather waste biocomposites for footwear components; **Jannatul Ferdous, Taslim Ur Rashid, Mohammed Mizanur Rahman**
- CPP-04:** Comparing the Structural, Magnetic and Transport properties of $Ba_{0.8}Ca_{0.2}Ti_{1-x}Nb_xO_3$ and $Ba_{0.8}Ca_{0.2}Ti_{1-x}Y_xO_3$ based on frequency; **Tasnia Jabin, Md. Abu Raif, J. U. Ahamed, M. N. I. Khan**

- CPP-05:** Preparation of Amine Functionized Gma-G-Non Woven Pe Fabric And It's Application In Anionic Dye Removal; **Nazia Rahman, Nirmal Chandra Dafader, Shahnaz Sultana, Md. Nabul Sardar**
- CPP-06:** Removal of Toxic Cr (VI) Ions Using Amidoximated Acrylonitrile Grafted Non-Woven Polypropylene Fabric; **Md. Nabul Sardar, Nazia Rahman, Shahnaz Sultana, Nirmal Chandra Dafader**
- CPP-07:** rGO-CuO Nanocomposite Incorporated Chitosan/PVA Electrospun Nanofiber Mat for pH Sensitive Adsorption of Organic Dyes; **Tanvir Siddike Moin, M. Nuruzzaman Khan, Mohammed Mizanur Rahman**
- CPP-08:** Exploring the Coupling Effect of Ferromagnetic, $\text{Co}_{0.8}\text{Zn}_{0.2}\text{Fe}_2\text{O}_4$ with the Ferroelectric, $\text{La}_{0.5}\text{Ba}_{0.5}\text{TiO}_3$ at Different Concentrations in Composite Multiferroics: **Umme Habiba, I. N. Esha, M. N. I. Khan, H. N. Das, M. S. Bashar, Kazi Hanium Maria**

Session (VIIB): Meteorology and Atmospheric Physics

Venue: Classroom, Atomic Energy Centre Dhaka

Time: 16:40 – 18:20

Chair : Dr. Samarendra Karmakar

Co-Chair : Dr. Md. Abdul Mannan

Invited Talk

[20 minutes]

- IT-VIIB:** Statistical Analysis of Long-term temperature trends in Bangladesh; **Md. Mahub Alam and A. S. M. Mahtab, KUET**

Contributory Papers

[10 minutes per paper]

- MAP-01** Sensitivity of Microphysics in WRF-ARW Model for the Simulation of Tropical Cyclones 'Amphan' and 'Bulbul' over the Bay of Bengal; **Md. Idris Ali and Md. Mahub Alam, KUET**
- MAP-02** Heat Wave in Bangladesh- dynamics and predictability; **Md. Abdul Mannan, Fatima Akter, Samarendra Karmakar, Md. Abdul Mannan Chowdhury**
- MAP-03** Comparison of High Resolution Satellite-Derived Sea Surface Temperature with Observed SST from Buoy over Indian Ocean; **S.M. Quamrul Hassan, Syed Jamal Ahmed , Razia Sultana, Kazi Jebunessa**
- MAP-04** Sensitivity of Cumulus Physics Schemes in WRF-ARW Model for Predicting Thunderstorm Events over Bangladesh; **Fariha Tabassum, M. A. K. Mallik**
- MAP-05** Sensitivity of WRF microphysics schemes for predicting Severe Thunderstorm event over Bangladesh-Through validation approach; **Tanjina Akram and M. A. K. Mallik**
- MAP-06** Tropical Cyclone Structure Analysis using Satellite Observations; **Md. Shaheenul Islam**
- MAP-07** Study of Vertical Structure of Tropical Cyclones using Numerical Weather Prediction Model over the Bay of Bengal; **Kh. Hafizur Rahman, M. A. Taher**
- MAP-08** Predictability of Monsoon Depression over the Bay of Bengal using NWP Models; **M. A. K. Mallik, Md. A. E. Akhter, S. M. Quamrul Hassan, Md. Arif Hossain, Md. Omar Faruk**
- MAP-09** Prediction of lightning Activity over Bangladesh Based on diagnostic and Explicit Lightning Parametrizations of WRF Model: **M. M. R. Paramanik, K. M. G. Rabbani, A. Imran and I. M. Syed**

Cultural Program : 18:30 – 19:30

Conference Dinner : 19:30 – 21:00

21th May 2022 (Saturday)

Session (VIII A): Environmental Science

Venue: Auditorium, Atomic Energy Centre Dhaka

Time: 9:00 – 10:50

Chair : Dr. Bilkis Ara Begum

Co-Chair : Dr. Muhammad Abul Kalam Mallik

Invited Talk [20 minutes]

IT-VIII A: Sustainable Management of Water Resources Using Isotope Techniques: Opportunities and Active Research Areas in Bangladesh: **Nasir Ahmed, BAEC**

Contributory Papers [10 minutes per paper]

- ES-01:** Appraisal of Environmental Pollution Indices and Subsequent Human Health Risks of Groundwater in an Industrial Zone of Southwest Part of Bangladesh; **F. T. Ahmed, M. M. Hossain, M. R. K. Milan, M. T. Islam, A. H. A. N. Khan, M. M. Rahman, N. C. Dafader, M. O. Rahman, and S. Sultana**
- ES-02:** An Approach towards Human Health Risk Assessment and Source Apportionment of Potentially Toxic Elements (PTEs) in Some Contaminated Fish Species; **Khan M. Mamun, Yeasmin N. Jolly, Jamiul Kabir, Shirin Akter, S. Hossain, K. J. Fatema, Arafat Rahman**
- ES-03:** Sensitivity Study of PBL Schemes on the Simulation of Tropical Cyclone Titli Over the Bay of Bengal Using WRF Model; **Saifullah, Md. Idris Ali**
- ES-04:** Effect on Oxidation on the Leaching Behavior of Cesium (Cs) and Strontium (Sr) from Nonmarine and Marine Sediment: An Approach of Sequential Extraction Method; **Sushmita Hossain, Takashi Ishiyama, Shoichi Hachinohe, Chiaki T. Oguchi**
- ES-05:** Study of Bioaccumulation and Potential Risk from Food Crops Cultivated with Pesticides in Pre-Selected Sites of Bangladesh; **Md. Nur E Alam, Md. Shahidur Rahman Khan, M. Mozammel Hosen, Md. Azizul Maksud, Lutfun Nahar Lufta, Tasrina Rabeya Choudhury, Shamshad Begum Quraishi**
- ES-06:** Design and Development of an Industrial Chiller for Heat Removal in Process Plant Operations; **Farhana Nurjahan Ahmed, Md. Forhad Hossain, Nahid Jahan, Md. Ali Zinnah, Md. Robiul Alam**
- ES-07:** Assessment of Contamination Level, Pollution Risk and Source Apportionment of Heavy Metals in the Halda River water, Bangladesh; **Moumita Dey, Asma Akter, Saiful Islam, Shaikat Chandra Dey, Tasrina Rabia Choudhury, Konica Jannat Fatema, Bilkis Ara Begum**
- ES-08:** Heavy Metal Contamination from Soil to Vegetables: Case Study at the Industrial Zones of Dhaka District, Bangladesh; **M. M. Hosen, B. Ahmed, M. N. Alam, M. A. Maksud, S. R. Khan, L. N. Lutfu, A. K. M. R. Alam, S. B. Quraishi**
- ES-09:** Seasonal Variation and Chemical Characterization of Ambient Fine Particulate Matter at an Industrial Area in Dhaka city: **M.M. Hasan, M.A.M. Sarkar, M.S. Rahman, B.A. Begum**

Session (VIII B): Nanomaterials-II**Venue: Classroom, Atomic Energy Centre Dhaka****Time: 9:00 – 10:50**

Chair : Dr A K M Abdul Hakim

Co-Chair : Prof. Md. Mohi Uddin

Invited Talk**[20 minutes]**

IT-VIII B-01: Modulation of metal-insulator transition properties in the three-dimensionally controlled nano-micro space; **Azusa N. Hattori, Osaka University, Japan**

IT- VIII B -02: Hydrogen induced phase transition on perovskite nickelate thin films – Analysis and Design for nanoscale protonic oxide devices: **Hidekazu Tanaka, Osaka University, Japan**

Contributory Papers**[10 minutes per paper]**

- NM-11:** Colour-tunable Light-emitting Diodes Based on Ga-doped ZnO Nanorods; **M. Azizar Rahman, Cuong Ton-That**
- NM-12:** Titanium di Oxide (TiO₂) Based Nanostructure: Synthesis, Characterization and Photocatalytic Application; **Md. Kamal Hossain, Umme Sarmeen Akhtar, Kyung Byung Yoon**
- NM-13:** Enhanced Solar light Driven Photocatalytic Activity of Gd³⁺ Doped Bismuth Ferrite Nanostructures; **Fahmida Sharmin, M. A. Basith**
- NM-14:** Annealing Effect on the Soft Magnetization and Structural Grain Growth and Nanocrystalline (Fe_{0.9}Co_{0.1})_{73.5}Cu₁Nb₃Si_{13.5}B₄ Metallic Glass; **K. Sarkar, A. Said Sikder, M. A. Hossain, H. N. Das, M. N. I. Khan, S. S. Sikder**
- NM-15:** Synthesis and Structural Characterization of R_{2-x}B_xMn₂O₆ and R_{1-x}B_xMnO₃ (R= La, Sm and B= Ca, Sr) nanoparticles; **Mst. Arjumanara Bagum, Rimi Rashid, Arup Kumar, Harinarayan Das, Mohammed Nazrul Islam Khan, F.-U.-Z. Chowdhury, Sheikh Manjura Hoque**
- NM-16:** Characterization and Study the Magnetic Hyperthermia Effect of Iron Oxide (Fe₃O₄) Nanoparticles Synthesized via Thermal Decomposition Method; **Md Kamal Uddin, Nandita Deb, Harinarayan Das, Rimi Rashid, Arup Kumar, Sheikh Manjura Hoque, Ishtiaque M. Syed**
- NM-17:** Synthesis and Characterization of Nickel Oxide Decorated Molybdenum Disulfide Nanomaterials for Energy Storage Application; **Md. Wahidujjaman Bari, Muhammad Rakibul Islam**
- NM-18:** Dextran Coated Co-Mg Ferrite Nanoparticles: Investigation as temperature sensitive drug carriers; **Tamanna Hoque, Sheikh Manjura Hoque, I. N. Esha, Aminul Islam, Arup Kumar, Rimi Rashid, Kazi Haniun Maria**
- NM-19** Step Annealing Effect of crystallization Behavior and Transport Properties of Fe₃₀Ni₅₀B₂₀ Metallic Glass Ribbon: **S. Yasmin Tisa, S. D. Nath, S. Liba, H. N. Das, M.N. I. Khan and S. S. Sikder**

Tea Break : 10:50 – 11:00**Session (IX): Physics Education****Venue: Auditorium, Atomic Energy Centre Dhaka****Time: 11:00 – 12:00**

Contributory Papers**[10 minutes per paper]**

- PE-01:** Which is more elastic? Iron, or Rubber?; **Md. Nazmuzzaman Shifat, S M Hafizur Rahman**
- PE-02:** A Research Proposal for Pedagogical Analysis and Development on Quantum Mechanics; **Sumit Bhowmick**

Panel Discussion**[30 minutes]**

Panel Discussant : Prof. Mesbahuddin Ahmed
: Prof. Shamima K. Chowdhury
: Prof. Shibendra Shekher Sikder

Poster Session : 12:00 – 15:00

Lunch and Prayer Break : 13:30 – 14:30

Session (X): US-Bangladesh Education Collaboration Program**Venue: Auditorium, Atomic Energy Centre Dhaka****Time: 15:00 – 16:30**

- Speaker-01:** Muhammad Sohel Iqbal, EducationUSA Director, U.S. Department of State
- Speaker-02:** Ms. Raihana Sultana, Cultural Affairs Specialist, U.S. Embassy Dhaka
- Speaker-03:** Dr. Sharon Hart, Higher Education Senior Consultant
- Speaker-04:** Prof. Sultana N. Nahar, The Ohio State University, USA
- Speaker-05:** Dr. Charles Clark, National Institute Standards and Technology, USA

Tea Break: 16:30 – 16:45**Closing Ceremony: 16:45 – 17:15****AGM: 17:15 – 18:00**

List of Posters for Presentation

PP-01	Relativistic Study on the Scattering of e^{\pm} from Neutral Aluminum Targets: M. Raihan Islam, M. M. Haque, A. K. Fazlul Haque, Mahmudul H. Khandker, M. Masum Billah and M. Alfaz Uddin
PP-02	Half-metallic behavior with high magnetic moment of half-Heusler alloys $M\text{CrPb}$ ($M = \text{Hf, Zr}$): insights from DFT: Kanij Fatima, Salma Zahan, Mst. Shahida Afrin, Mohammad Abdur Rashid
PP-03	Structural, electronic, magnetic and optical properties of full-Heusler alloy Zr_2NiB : Mst. Shahida Afrin, Mohammad Abdur Rashid
PP-04	Electronic and Optical properties of Nb doped rutile TiO_2 : A DFT study: Salma Zahan, Mohammad Abdur Rashid
PP-05	Comprehensive ab-initio insights into the mechanical, optoelectronic, thermo physical, and lattice dynamical properties of binary BaGa_2 compound: M. I. Naher and S. H. Naqib
PP-06	The electronic, magnetic and optical property of Lanthanum Phosphide and Cerium Phosphide using first-principle calculation: Al Mojahid Afridi, Nasrin Afroz Nipa, Mohammad Abdur Rashid
PP-07	Quantum Gravitomagnetic Clock Effect for Spinning Particle Orbiting Kerr Black-Hole: Nazwa Chowdhury, Md. Shihab Uddin and S. B. Faruque
PP-08	Half-metallic behavior of SmP in the zinc-blende structure is revealed by first-principles study: Mst. Dil Afroj, Nasrin Afroz Nipa, Mohammad Abdur Rashid
PP-09	Relativistic Massless Simple Harmonic Oscillator in Dirac Equation: Md. Shihab Uddin, Nazwa Chowdhury & Dr. S. Badiuzzaman Faruque
PP-10	A DFT investigation of the effect of metals (Ag, Au, Cu) on the charge transport characteristics of BCP-metal complexes: Md Rakib Hossain, Ahsan Ullah, Sadia Khanam and Nazia Chawdhury
PP-11	Investigating the Origins of Quantum Indeterminism: Raisa Nawar Saleh, Antara Labiba Rafa
PP-12	Density functional theory based ab-initio insights into the pressure dependent physical properties of Mo_3P : Md. Sohel Rana, Razu Ahmed, Md. Sajidul Islam, Md. Mahamudujjaman, S. H. Naqib
PP-13	Density functional theory based investigation of mechanical, electronic, optical and thermal properties of AC ($A = \text{Nb, Ta, Ti}$) binary metallic carbides: Razu Ahmed, Md. Sohel Rana, Sajidul Islam, Md. Mahamudujjaman, S. H. Naqib
PP-14	Structural, elastic and optoelectronic properties of CaZn_2X_2 ($X = \text{N, P, As}$) semiconductors: density functional theory based investigations: Md. Sajidul Islam, Md. Sohel Rana, Razu Ahmed, Md. Mahamudujjaman, S. H. Naqib
PP-15	Effect of hydrostatic pressure on elastic, electronic, and optical properties of CaCuO_3 and SrCuO_3 in comparison with superconducting BaCuO_3 : M. Monira, M. A. Helal, M. N. H. Liton, M. Kamruzzaman, A. K. M. Farid ul Islam, and S. Kojima
PP-16	Screen the mechanical and optoelectronic properties of NbFeTe_2 : A DFT study: M. Aktary, M. A. Helal, M. N. H. Liton, M. Kamruzzaman, and A. K. M. Farid Ul-Islam
PP-17	Density functional study of pressure dependent structural and physical properties of SnS and Sb_2S_3 : Ayesha Tasnim, Md. Mahamudujjaman, Md. Asif Afzal, R.S. Islam, S.H. Naqib
PP-18	Hydrostatic Pressure Dependent Structural, Elastic, and Optoelectronic Properties of ScCuO_3 : A DFT study: S. A. Shupra, M. A. Helal, M. N. H. Liton, M. Kamruzzaman, and A. K. M. Farid Ul-Islam

PP-19	Comprehensive study of thortveitite structure of Zinc Pyrovanadate $Zn_2V_2O_7$ under pressure: S. Reza and M. S. Islam
PP-20	Numerical Study on Double Diffusive Natural Convection in a Dome Shaped Cavity: Eshan Dey, Sonjoy Chandra Debnath, Shuvo Chowdhury and Sumon Saha
PP-21	Computational Investigation of Small-Organic Molecule Electron Acceptors: Istheak Ahmed, AhsanUllah, Md Rakib Hossain and Nazia Chawdhury
PP-22	First principle study of elastic, electronic and optical properties of $MCuO_3$ ($M = La$ and Y) under hydrostatic pressure: M. Sumaiya, M. A. Helal, M. N. H. Liton, M. Kamruzzaman, and A. K. M. Farid Ul-Islam
PP-23	Relativistic treatment for scattering of e^\pm by SO_2 molecule: Nowshin Anjum, M. Atiqur R. Patoary, M. Masum Billah, Mahmudul H Khandker, Hiroshi Watabe, A. K. F. Haque, and M Alfaz Uddin
PP-24	Theoretical study e^\pm from the NH_3 molecule: Nira Akter, M. Atiqur R. Patoary, M. Nure Alam Abdullah, M. Masum Billah, Mahmudul H Khandker, M. Shorifuddoza, Hiroshi Watabe, A. K. F. Haque, and M Alfaz Uddin
PP-25	Effect of Heat Conducting Rotating Cylinder on Conjugate MHD Mixed Convection inside a Cylindrical Domain: Md Jariful Haque, Minhajul Islam, Afifa Binte Islam and Sumon Saha
PP-26	A Study on Non-Linear Optical Property of SchiffBase Ligands and Its Metal Complexes: Dipto Das, Naimur Rahman
PP-27	CFD Study of MHD MixedConvection in a Quadrantal Enclosurewith Heat Conducting Rotating Cylinder: Md. Farhan, Md. Shahed Hossain Sohan, Rahmate Sobhan Sazid and Sumon Saha
PP-28	First principles study of structural, electronic, and optical properties of $CsSnI_3$: M. Surovi, M. N. H. Liton, M. A. Helal, M. Kamruzzaman, and A. K. M. Farid Ul Islam
PP-29	Optimization of Pair of Heat Conducting Obstacles on Natural Convection in a Square Enclosure with Discrete Heating: Ansar Ali, Md. Mahruf Hossain, Ishtiaq Ahmed and Sumon Saha
PP-30	Overall Thermal Performance Due to MHD Conjugate Mixed Convection Flow in a Triangular Cavity with Heat Conducting Rotating Cylinder: Md Tusher Mahmud, Fayes-Ush-Shoaib, Prosenjit Das, Sumon Saha
PP-31	Mixed Convection Analysis in a Lid-Driven Square Cavity in the Presence of Heat Conducting Cylinder with Roughness Component: Maruf Tahmid, Saad Al Razee, Tawsif Iqbal and Sumon Saha
PP-32	Analysis of Aiding MHD Mixed Convection Heat Transfer within a Heat Absorbing Cavity: Farhan Fuad, Tanvir Ahmed Saikat, Asmita Talukder and Sumon Saha
PP-33	MHD Natural Convection of Nano Fluid in a Heated Square Enclosure with Multiple Heat Generating Elements: Sadia Tasnim, Hriti Saha, Anamica Mitra and Sumon Saha
PP-34	The first principles calculations of undoped and Ag doped $MoTe_2$ for catalytic and optoelectronic applications: M. Khuku Moni, M. Hossain and M. Kamruzzaman
PP-35	A theoretical study of undoped and Nb doped $MoSe_2$ for solar cell and optoelectronic applications: M. Hossain, M. Khuku Moni and M. Kamruzzaman
PP-36	Approximation of the Inverse of the Fine-Structure Constant (137.036) Using the Golden Ratio, Euler's number, and Pi: Nafish Sarwar Islam
PP-37	Reanalysis of Proton's Electric and Magnetic Form Factors Using Rosenbluth Separation Data at $1 \leq Q^2 \leq 10 \text{ GeV}^2$: Shahnul Zulkarnain
PP-38	Theory of 3 Folds and 4 Dimensional Universe (Beyond Standard Model of Particle Physics) : Mr. Yogesh Vishwanath Chavan

PP-39	DFT insights into Nb-based 211 MAX phase Carbides: Nb ₂ AC (A = Ga, Ge, Zn, Ti) : Prima Das, M. A. Ali, N. Jahan, M. M. Hossain, and M. M. Uddin
PP-40	A DFT+U Study on the Structural, Electronic, Magnetic and Optical Properties of Fe-doped, Ni-doped and Fe-Ni co-doped ZnO: Md Sanowar Hosen, Alamgir Kabir, Sadiq Shahriyar Nishat
PP-41	Physical properties of M ₂ BC (M =Ti, Zr, Hf and W): A comprehensive theoretical study: Rafiqul Islam, M. M. Hossain, M. A. Ali, M. M. Uddin, A. K. M. A. Islam, S. H. Naqib
PP-42	Synthesis and Characterization of Spray-pyrolized Ba-doped ZnO Thin Films: M. F. K. Rajoni, M. K. R. Khan, M. M. Rahman and M. S. I. Sarkar
PP-43	Investigation of various physical properties of TiO ₂ using spray pyrolysis and insights from density functional theory method: Md. Humaun Kabir, M.K.R. Khan, M. Mozibur Rahman, M.S.I. Sarker
PP-44	Synthesis and Characterization of Strong Light Absorber Cu ₂ AgS _{1-x} Se _x Thin Films for Solar Cell Applications: M. Kamruzzaman, A. J. Pritha, D. S. Popy, R. Afrose, M. Aktary
PP-45	Optical Characterization of the Plasma Polymerized Methyl Acrylate-Vinyl Acetate Composite Thin Films: Md. Saddam Sheikh, A. H. Bhuiyan, Md. Juel Sarder and Mohammad Jellur Rahman
PP-46	Inorganic/Organic Hybrid Thin Films for Optoelectronics: Farzana Yasmin, Md. Juel Sarder, Md. Saddam Sheikh and Mohammad Jellur Rahman
PP-47	First principles calculations to investigate interesting physical properties of (Ba _{0.82} K _{0.18})(Bi _{0.53} Pb _{0.47})O ₃ single-cubic-perovskite superconductor: M. H. K. Rubel, S. K. Mitro, K. M. Hossain, M. M. Rahaman, M. K. Hossain, J. Hossain, B. K. Mondal, I. Ahmed, A. K. M. A. Islam, A. El-Denglawey
PP-48	Influence of Ni ²⁺ on the structural, morphological, and magnetic properties of Sol-gel synthesized Mn-Zn ferrite nanoparticles: Md. Suzaudullah, M.S.I. Sarker, M.K.R. Khan, M.M. Hoque, F A Khan
PP-49	Study the effect of sintering temperature on structural and thermal properties of Ag doped ZnFe ₂ O ₄ nanoferrites: Rabeya Bosri, Md Nayem Mia, M.N.I. Khan, H. N. Das, S.I. Liba, Mohammad J. Miah
PP-50	Microstructural and Electrical Transport Properties of Zn Substituted Li-Cu-Mg Ferrite: M. Atikul Islam, M. Samir Ullah, F. A. Khan, M. N. I. Khan, M. Mizanur Rahman and K. Saadat Hossain
PP-51	Crystallization Kinetics of Co ₇₂ Fe ₈ B ₁₀ Si ₁₀ Amorphous Ribbon Using Differential Thermal Analysis: H. Khatun, S. D. Nath, S. Yasmin Tisa and S. S. Sikder
PP-52	Effect of step annealing temperature on the crystallization kinetics of Fe ₃₀ Ni ₅₀ B ₂₀ metallic glass: S. Yasmin Tisa, S. D. Nath, S. I. Liba, M.N. I. Khan and S. S. Sikder
PP-53	Phase stability and physical properties of a B-site ordered Nd ₂ CrFeO ₆ double perovskite: A first-principles study: M. D. I. Bhuyan, Rana Hossain, Ferdous Ara, M. A. Basith
PP-54	Study of Pb doped lanthanum manganite synthesized by solid state reaction technique: Abdur Rahman, Md. Abdur Razzaque Sarker and M. S. Islam
PP-55	Effect of Ho-Substitution on Structural, Electrical and Magnetic Properties of Ni _{0.25} Cu _{0.20} Zn _{0.55} Ho _x Fe _{2-x} O ₄ Polycrystalline Ferrites: N J Bely, S C Mazumdar
PP-56	Structural and Electromagnetic Properties of Dy ³⁺ Substituted Ni-Cu-Zn Ferrites: K Gush, S C Mazumdar
PP-57	Hot-injection synthesized lead-free CsSnCl ₃ : A combined experimental and theoretical investigation: Md. Shahjahan Ali, Subrata Das, Yasir Fatha Abed, M. A. Basith

PP-58	Design and Construction of a low-cost Light Source with variable Wavelength, Intensity, and Illumination period for Photophysical and Photochemical studies of Semiconducting Materials: S.F.U. Farhad, M.S. Islam, Md. Saidul Islam, N.I. Tanvir, and S. Islam
PP-59	Mineralogical analysis of rock samples collected from Jaflong and Bholaganj areas of Sylhet district: Md. Salauddin, Md. Sarowar Hossain, M. N. I. Khan, Abdul Hannan
PP-60	First-Principles Insights into the Lattice Parameter, Electronic, Optical, Mechanical and Thermodynamic Properties of ABO_3 [A=Ba, Ca, Sr; B=Ce, Ti, Zr] Perovskites: Mehedi Hasan, A. K. M. Akther Hossain
PP-61	Structural, magnetic, and optical properties of Y_2FeCrO_6 double perovskite synthesized by sol-gel technique: M. A. Islam, Ferdous Ara, M. A. Basith
PP-62	Structural and Electrical Properties of Bi_2O_3 added Ni-Co-Zn Ferrites: Sadia Nazmin, M. Hassan, Sm. Rubayatul Islam, M. A. Islam, F. A. Khan and M. Samir Ullah
PP-63	Dielectric and Magnetocaloric Properties of $La_{1-x}Sr_xMnO_3$ Perovskite Manganite: M. Masum Billah, M. A. A. Bally, M. A. Islam, F.A. Khan and M. Samir Ullah
PP-64	Structural and Magnetic Properties of Dy substituted Ni-Co-Zn ferrites: Farhana Afrose Sonia, M. Samir Ullah, H. N. Das, M. N. I. Khan and M. Mizanur Rahman
PP-65	Studies on the Structural and Magnetic Properties of Ti doped $Bi_{0.80}Ba_{0.20}FeO_3$ Ceramics: M. Shohel Rana, M. A. Islam, M. K. Alam, M. Samir Ullah and F. A. Khan
PP-66	An Overview of Smart Technology for Textiles and Clothing: Md. Saiful Islam
PP-67	Characteristic behavior of Single and Multi Junction ac Josephson Effect in Superconductor: N. Sultana, Sanchita Das Gupta, H.M.A.R. Maruf, N. M. Eman, Md. Abdullah Al Zaman, M.R. Islam and F.-U.-Z. Chowdhury
PP-68	Spin transport and spin Hall effect in nonmagnetic semiconductors: Rafiul Ialsm Rimon, M. Idrish Miah
PP-69	The superconductivity of neutron Star: Ch. Rozina, P. Maryam and N. L. Tsintsadze
PP-70	Ab-initio investigation of structural, mechanical, thermodynamic, electronic and optical properties of $Sc_2Al_2C_3$: M. A. Rayhan, M. A. Ali, M. M. Hossain, and M. M. Uddin
PP-71	Advances with Triphenylene Derivatives in Optics and Electronics: Md. Akram Hussain, Newton Neogi, MD. Golam Sazid
PP-72	Electronic Structures and Magnetic Properties of (MgA)O Diluted Magnetic Insulators (A = Cr, Mn, and Co): Raisul Islam, M. Shahjahan, M. Samir Ullah, M. M. Rahman
PP-73	Dosimetric Comparison between Intensity modulated radiotherapy versus volumetric modulated arc therapy treatment plans for Breast Cancer: Rahman M, Md. Akhtaruzzaman, H. A. Azhari, G.A. Zakaria, Md. Atiquzzaman
PP-74	Estimation of Radiological Risk on Public around United Hospital Campus in Dhaka, Bangladesh: Salma Akter, M. S. Rahman, K. N. Sakib, M. M. Tasnim, S. Yeasmin
PP-75	Real-time Radiation Monitoring around National Heart Foundation Hospital Campus and Estimation of Radiological Risk on Public: Shamima Sultana Mitu, M. S. Rahman, K. N. Sakib, M. M. Tasnim, S. Yeasmin
PP-76	Real-time Environmental Radiation Monitoring in Dhanmondi Thana following In-Situ Method: Esrat Zahan Lucy, M. S. Rahman, K. N. Sakib, M. M. Tasnim, S. Yeasmin
PP-77	Assessment of Radiation Risk on Public around Cancer & Mitford Hospital Campuses in Dhaka, Bangladesh: MD Mostafizur Rahman, M. S. Rahman, H. R. Khan, S. Yeasmin
PP-78	Characterization, Measurements, and Calibration of $LiF:Mg,Ti$ Crystal Dosimeters (MTS-100) to High Energy Photon Beam for Radiotherapy Level: M. Z. Hossain, N. Arobi, T. Siddiqua, S. Purohit, H.M. Jamil, M. M. H. Bhuiyan, AKM M. H. Meaze, M. S. Rahman
PP-79	Nanoparticles induced deformation and poration in lipid vesicles under various sugar concentrations:

	Sharif Hasan, Salma Akter, and Mohammad Abu Sayem Karal
PP-80	Electronic Absorption Characteristics and Nonlinear Optical Responses in Thermal Regime of Bovine Serum Albumin and its Constituent Amino Acids: S. A. Tarek, S. B. Faruque, S. M. Sharafuddin, K. M. E. Hasan, A. K. M. M. Hossain, H. Ara, M. K. Biswas, Y. Haque
PP-81	Deformation and poration of giant lipid vesicles by magnetite nanoparticles under various concentrations of cholesterol in membranes: Salma Akter, Sharif Hasan, and Mohammad Abu Sayem Karal
PP-82	Z-scan analysis of circulating cell free DNA from blood plasma for screening and diagnostic marker of breast cancer: H. Ara, M. K. Biswas, S. A. Tarek, E Hoque, S. B. Faruque, S. M. Sharafuddin, Y. Haque
PP-83	Measurement of total charge changing cross sections for $^{12}\text{C} + \text{Al}$ interaction using CR-39 nuclear track detector: Iftekhar Ahmed and Quazi Muhammad Rashed Nizam
PP-84	Modeling of Compound Nerve Action Potential and Fiber Diameter Distribution: An Analytical Approach: Most. Salma Yeasmin Jannaty, Md. Jamil Hasan Karami, Zaid Bin Mahbub
PP-85	A Genetic Algorithm Based Approach for Predicting Motor Nerve Conduction Velocity Distribution from Compound Muscle Action Potential: Zakaria Shams Siam, Rubyat Tasnuva Hasan, Mohammad Abu Sayem Karal, Masud M A, Zaid Bin Mahbub
PP-86	Kinetics molecular transport through the nanopore in the membrane of GUVs using COMSOL simulation: T. Rahman, M. S. Ishtiaque, M. I. Hossain, M.A.S. Karal, and M. K. Alam
PP-87	Effects of hydrocarbon chain on the vesicle size distribution, bending modulus, and elastic modulus of lipid membranes: Md. Imran Hossain, Mohammad Abu Sayem Karal, Md. Kamruzzaman, Ishtiaque M. Syed, Md. Kabir Ahamed, Marzuk Ahmed, and Sharif Hasan
PP-88	Detection of COVID-19 Pneumonia Using Chest X-Ray Images – A Transfer Learning Approach: Akif Mahdi, Md Hasnat Kabir, Md Hasnat Kabir
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