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List of Publications: Dr. Sk Riyajuddin

1. Super-Hydrophilic Hierarchical Ni-Foam-Graphene-Carbon Nanotubes-Ni₂P-CuP₂ Nano-Architecture as Efficient Electrocatalyst for Overall Water Splitting; **Sk Riyajuddin**, Kashif Azmi, Mansi Pahuja, Sushil Kumar, Takahiro Maruyama, Chandan Bera, and Kaushik Ghosh*; **ACS Nano**, 2021, 15, 3, 5586–5599. (Q1)
2. Super-Hydrophilic leaf-like Sn₄P₃ on Porous Seamless Graphene-Carbon Nanotube Heterostructure as an Efficient Electrocatalyst for Solar-Driven Overall Water Splitting; **Sk Riyajuddin**, Mansi Pahuja, Parrydeep Kaur Sachdeva, Kashif Azmi, Sushil Kumar, Mohd Afshan, Firdaus Ali, Jenifar Sultana, Takahiro Maruyama, Chandan Bera, and Kaushik Ghosh*; **ACS Nano** 2022, 16, 4861-4875. (Q1)
3. 3D-Graphene Decorated with g-C₃N₄/Cu₃P composite: A Noble Metal-free Bifunctional Electrocatalyst for overall water splitting; **Sk Riyajuddin**, Tarik Aziz, Sushil Kumar, Gilbert D Nessim, Kaushik Ghosh*; **ChemCatChem**, 2020, 12, 1394-1402. (Q1)
4. p-i-n Silicon Nanowire Array-NGQD: A Metal-Free Electrocatalyst for Photoelectrochemical Hydrogen Evolution; **Sk Riyajuddin**, Sushil Kumar, Damini badhwar, Shumile Ahmed Siddhiqui, jenifar sultana, Kaushik Ghosh*; **Sustainable Energy and Fuels**, 2021, 5, 3160-3171. (Q1)
5. Silicon Nanowire-Ta₂O₅-NGQD heterostructure: An efficient photocathode for Photoelectrochemical hydrogen evolution; **Sk Riyajuddin**, jenifar sultana, Shumile Ahmed Siddhiqui, Sushil Kumar, Damini badhwar, , Shyam Sundar Yadav, Saveena Goyal, Ananth Venkatesan, Suvankar Chakraverty, Kaushik Ghosh*; **Sustainable Energy and Fuels**, 2022, 6, 197-208. (Q1)
6. Se-Incorporated Porous Carbon/Ni₅P₄ Nanostructures for Electrocatalytic Hydrogen Evolution Reaction with Waste Heat Management; Mansi Pahuja[#], **Sk Riyajuddin**[#], Mohd Afshan, Shumile Ahmed Siddhiqui, jenifar sultana, Takahiro Maruyama Kaushik Ghosh*; **ACS Applied Nano Materials**, 2022, 5, 1385-1396. (#-both authors have an equal contribution) (Q1)
7. Study of field emission property of pure graphene-CNT heterostructure connected *via* seamless interface; **Sk Riyajuddin**, Sushil Kumar, Khushboo Soni, Surender P. Gaur, Damini Badhwar and Kaushik Ghosh*; **Nanotechnology**, 2019, 30, 385702. (Q1)
8. Linear Piezoresistive Strain Sensor based on Graphene/g-C₃N₄/PDMS Heterostructure; **Sk Riyajuddin**, Sushil Kumar, Aakanksha Sud, Takahiro Maruyama, Md Ehasan Ali*, Kaushik Ghosh*; **Nanotechnology**, 2020, 31, 295501. (Q1)
9. Strategy to improve the super-capacitive and hydrogen evolution performance of graphitic carbon nitrides via enrichment of carbon content; Sushil Kumar, **Sk Riyajuddin**, Kulvinder Singh, Lalit Yadav Takahiro Maruyama, and Kaushik Ghosh*; **Journal of Alloys and Compounds**, 2021, 858, 157671. (Q1)
10. In-situ growth of Urchin Manganese Sulfide Anchored Three-Dimensional Graphene (γ-MnS@3DG) on Carbon Cloth as Flexible Asymmetric Supercapacitor; Sushil Kumar, **Sk Riyajuddin**, Mohd Afshan, SK Tarik Aziz and Kaushik Ghosh*; **The Journal of Physical Chemistry Letters**, 2021, 12, 6574-6581. (Q1)
11. Bimetallic Phosphides for Hybrid Supercapacitors; SK Tarik Aziz, Sushil Kumar, **Sk Riyajuddin**, Kaushik Ghosh, * Gilbert Daniel Nessim, * Deepak P. Dubal*; **Journal of Physical Chemistry Letters**, 2021, 12, 5138-5149. (Q1)
12. Three-Dimensional Graphene Decorated Copper-Phosphide (Cu₃P@ 3DG) Heterostructure as Effective Electrode for Supercapacitor; Subodh Kumar, Tarik Aziz, Sushil Kumar, **Sk Riyajuddin**, Gili Yaniv, Louisa Meshi, Gilbert D Nessim*, Kaushik Ghosh*; **Frontiers in Materials**, 2020, 7, 30. (Q2)
13. Boosting the Supercapacitive Performance via incorporation of Vanadium in Nickel Phosphide Nanoflakes: A High Performance Flexible Renewable Energy Storage Device; Mohd Afshan, Sushil Kumar, SK Tarik Aziz, Rishita

- Ghosh, Mansi Pahuja, Shumile Ahmed Siddiqui, Kehkashan Alam, Seema Rani, Daya Rani, Takahiro Maruyama, **Sk Riyajuddin*** Kaushik Ghosh* **ACS Energy and Fuel**, 2022, 36, 4076-4086. (Q1)
14. Electrodes Based on Se Anchored on NiCoP and Carbon Nanofibers for Flexible Energy Storage Devices; Mohd Afshan, Sushil Kumar, Daya Rani, Mansi Pahuja, Rishita Ghosh, Shumile Ahmed Siddiqui, **Sk Riyajuddin***, Kaushik Ghosh* **ACS Applied Nano Materials**, 2022,5, 15328-15340. (Q1)
 15. Porous Carbon Template Decorated with MOF-Driven Bimetallic Phosphide: A Suitable Heterostructure for the Production of Uninterrupted Green Hydrogen via Renewable Energy Storage Device; Mohd Afshan, Parrydeep Kaur Sachdeva, Daya Rani, Subhabrata Das, Mansi Pahuja, Shumile Ahmed Siddiqui, Seema Rani, Rishita Ghosh, Nikita Chaudhary, Jyoti, **Sk Riyajuddin**, Chandan Bera, Kaushik Ghosh* **Small**, 2023, 19, 2304399 (Q1)
 16. Harnessing Environmental Sensitivity in SnSe-Based Metal–Semiconductor–Metal Devices: Unveiling Negative Photoconductivity for Enhanced Photodetector Performance and Humidity Sensing; Seema Rani, Subhabrata Das, Shumile Ahmed Siddiqui, Ayushi Jain, Daya Rani, Mansi Pahuja, Nikita Chaudhary, Mohd Afshan, Rishita Ghosh, Devansh Swadia, **Sk Riyajuddin**, Chandan Bera, Kaushik Ghosh*; **ACS Applied Materials & Interfaces**, 2024, 16, 26899-26914 (Q1)
 17. Graphene-intercalated $P_4Se_3@CNF$ hybrid electrode for sustainable energy storage solution: Enabling high energy density and ultra-long cyclic stability Daya Rani, Raheel Hammad, Mohd Afshan, E M Harini, Mansi Pahuja , Rajashri Urkude , Seema Rani , Shumile Ahmed Siddiqui , Subhabrata Das , Nikita Chaudhary , Rishita Ghosh , **Sk Riyajuddin** , Soumya Ghosh , Kaushik Ghosh*; **Carbon**, 2024, 227, 119225 (Q1)
 18. Transition metal phosphides as cardinal electrocatalytic materials for alkaline hydrogen production; S.K. Tarik Aziz, Sabiha Sultana, Ashwani Kumar, **Sk Riyajuddin**, Manodip Pal, and Arnab Dutta*, **Cell Reports Physical Science**, 2023, 4, 101747(Q1)
 19. Silicon Distyryl-BODIPY Hybrid Photodiode: Moving a Step Ahead from Organic Interface Layer to Type II Band Alignment; Nikita Chaudhary , Komal Gill, Mansi Pahuja , Seema Rani , Subhabrata Das , Manoj, K. Choudhary, Shumile Ahmed Siddiqui , Daya Rani , Mohd Afshan , Rishita Ghosh , **Sk Riyajuddin** , Soumyaditya Mula, Kaushik Ghosh* **Journal of Alloys and Compounds**, 2024, 978, 173389. (Q1)
 20. Phosphorus-Doped Nickel Oxide Micro-Supercapacitor: Unleashing the Power of Energy Storage for Miniaturized Electronic Devices; Shumile Ahmed Siddiqui, Subhabrata Das, Seema Rani, Mohd Afshan, Mansi Pahuja, Ayushi Jain, Daya Rani, Nikita Chaudhary, Jyoti, Rishita Ghosh, **Sk Riyajuddin**, Chandan Bera, Kaushik Ghosh* **Small**, 2024,20, 2306756 (Q1)
 21. A Janus cerium-doped bismuth oxide electrocatalyst for complete water splitting; S.K. Tarik Aziz, Mayuri Ummekar, Imran Karajagi, **Sk Riyajuddin**, KVR Siddhartha, Abhishek Saini, Ajay Potbhare, Ratiram G. Chaudhary, Vikram Vishal, Prakash C. Ghosh, Arnab Dutta*; **Cell Reports Physical Science**, 2022, 3, 101106. (Q1)
 22. Strategy to Improve the Photovoltaic Performance of Si/CuO Heterojunction via Incorporation of Ta_2O_5 Hopping Layer and MXene as Transparent Electrode; Jenifar Sultana, Shumile Ahmed Siddiqui, Mohd Afshan, Rishita Ghosh, Shyam Sundar Yadav, **Sk Riyajuddin**, Mansi Pahuja, Firdaus Ali, Seema Rani, Daya Rani, Kehkashan Alam, Sushil Kumar, Ananth Venkatesan, Kaushik Ghosh*; **ACS Applied Energy Materials**, 2022,5, 3941-3951. (Q1)
 23. Room-Temperature Ammonia Detection Using Layered Bi_2Se_3/Bi_2O_3 : A Next-Generation Sensor; Biswajit Das, **Sk Riyajuddin**, Kaushik Ghosh, Ranajit Ghosh*; **ACS Applied Electronic Materials**, 2023, 5, 948-956. (Q1)
 24. Single-walled carbon nanotubes patterned as aromatic element rings through chemical refluxation method; Swasti Saxena*, Ankit Kumar Srivastava, **Sk Riyajuddin**, Siddhartha Samanta, Sabyasachi Khatua, Aakash Singh; **Materials Today: Proceedings**, 2023, <https://doi.org/10.1016/j.matpr.2023.01.300> (Q2)
 25. Amino acid-capped transition metal ion-doped iron oxide nanoparticles: evaluating drug delivery carrier efficiency and in vitro magnetic resonance image contrasting ability; Bindi Sanghavi, Sucheta De Mondal*, Urja Verma, Suresh Balakrishnan, **Sk Riyajuddin**, Kaushik Ghosh, Mitesh Sarkar, Hemant P Soni* **Journal of the Iranian Chemical Society**, 2023, 20,1605-1620. (Q3)

26. Seamless Architecture of Porous Carbon Matrix Decorated with Ta₂O₅ Nanostructure-based Recyclable Photocatalytic Cartridge for Toxicity Remediation of Industrial Dye Effluents; Mansi Pahuja, Indranil De, Shumile Ahmed Siddiqui, Subhabrata Das, Mohd Afshan, Kehkashan Alam, Sk Riyajuddin, Seema Rani, Rishita Ghosh, Daya Rani, Komal Gill, Manish Singh*, Kaushik Ghosh* **Separation and Purification Technology**, 2023, 320, 123685. (Q1)
27. Constructing a metal-free 2D covalent organic framework for visible-light-driven photocatalytic reduction of CO₂: a sustainable strategy for atmospheric CO₂ utilization; Priyanka Sarkar, Arpita Hazra Chowdhury, Sk Riyajuddin, Swarbhanu Ghosh, Sk Manirul Islam*; **Reaction Chemistry & Engineering**, 2023, 8, 365-376. (Q1)
28. Photo-Thermal Catalytic Reduction of Carbon Dioxide: Recent Status and Future Prospects; Sushil Kumar, Sk Riyajuddin, Gushandeep Kaur, Kaushik Ghosh*; **Advanced in Nanoscience and Nanotechnology**, 2021, 5, 5-19. (Q2)
29. Reduction of carbon dioxide with mesoporous SnO₂ nanoparticles as active photocatalysts under visible light in water; Arpita Hazra Chowdhury, Anjan Das, Sk Riyajuddin, Kaushik Ghosh, Sk Manirul Islam*; **Catalysis Science & Technology**, 2019, 9, 6566-6569. (Q2)
30. Mesoporous covalent organic framework: An active photo-catalyst for formic acid synthesis through carbon dioxide reduction under visible light; Priyanka Sarkar, Sk Riyajuddin, Anjan Das, Arpita Hazra Chowdhury, Kaushik Ghosh, Sk Manirul Islam*; **Molecular Catalysis**, 2020, 484, 110730. (Q2)
31. Chitosan-Graphene Oxide Hydrogels with Embedded Magnetic Iron Oxide Nanoparticles for Dye Removal; Nirbhair Singh, Sk Riyajuddin, Kaushik Ghosh, Surinder K Mehta, Abhijit Dan*; **ACS Applied Nano Materials**, 2019, 2, 7379-7392. (Q1)
32. Mussel-Inspired UV Protective Organic Coatings via Layer-by-Layer Assembly; Arshdeep Kaur Gill, Sk Riyajuddin, Mujeeb Alam, Kaushik Ghosh, Debabrata Patra*; **European Polymer Journal**, 2020, 124, 109455. (Q1)
33. Catalytic Synthesis of Benzimidazoles and Organic Carbamates by Polymer Supported Zinc Catalyst through CO₂ Fixation; Imdadul Haque Biswas, Surajit Biswas, Md Sarikul Islam, Sk Riyajuddin, Priyanka Sarkar, Kaushik Ghosh, SM Islam*; **New Journal of Chemistry**, 2019, 43, 14643-14652. (Q2)
34. Cu-NPs@COF: A potential heterogeneous catalyst for CO₂ fixation to produce 2-oxazolidinones as well as benzimidazoles under moderate reaction conditions; Resmin Khatun, Surajit Biswas, Imdadul Haque Biswas, Sk Riyajuddin, Najirul Haque, Kaushik Ghosh, Sk Manirul Islam*; **Journal of CO₂ Utilization**, 2020, 40, 101180. (Q1)
35. Synthesis of Benzimidazolones and N-phenyl formamides by CO₂ fixation Under Mild Reaction Conditions Using Polymer Supported Zinc Complex as Catalyst; Priyanka Basu, Tusar Kanto Dey, Sk Riyajuddin, Surajit Biswas, Kaushik Ghosh, Sk. Manirul Islam*; **New Journal of Chemistry**, 2020, 44, 12680-12691. (Q2)
36. Modified Graphene Oxide based Zinc composite: an efficient catalyst for N-formylation and carbamate formation reactions through CO₂ fixation; Resmin Khatun, Surajit Biswas, Md. Sarikul Islam, Imdadul Haque Biswas, Sk Riyajuddin, Kaushik Ghosh, Sk Manirul Islam*; **ChemCatChem**, 2019, 11, 1303-1312. (Q1)
37. Zinc (II) incorporated porous organic polymeric material (POPs): A mild and efficient catalyst for synthesis of dicoumarols and carboxylative cyclization of propargyl alcohols and CO₂ in ambient conditions; Sk Safikul Islam, Noor Salam, Rostam Ali Molla, Sk Riyajuddin, Nasima Yasmin, Debasis Das, Kaushik Ghosh, Sk Manirul Islam*; **Molecular Catalysis**, 2019, 477, 110541. (Q2)
38. Zn (ii)@ TFP-DAQ COF: an efficient mesoporous catalyst for the synthesis of N-methylated amine and carbamate through chemical fixation of CO₂; Priyanka Sarkar, Arpita Hazra Chowdhury, Sk Riyajuddin, Surajit Biswas, Kaushik Ghosh, Sk Manirul Islam*; **New Journal of Chemistry**, 2020, 44, 744-752. (Q2)
39. Silver nanoparticles architected HMP as a recyclable catalyst for tetramic acid and propiolic acid synthesis through CO₂ capture at atmospheric pressure; Swarbhanu Ghosh, Aniruddha Ghosh, Sk Riyajuddin, Somnath Sarkar, Arpita Hazra Chowdhury, Kaushik Ghosh*, Sk Manirul Islam*; **ChemCatChem**, 2020, 12, 1055-1067. (Q1)

40. Visible light assisted chemical fixation of atmospheric CO₂ into cyclic Carbonates using covalent organic framework as a potential photocatalyst; Anjan Das, Ranjan Das, Pekham Chakraborty, **Sk Riyajuddin**, Arpita Hazra Chowdhury, Swarbanu Ghosh, Aslam Khan, Kaushik Ghosh, Sk Manirul Islam*; **Molecular Catalysis**, **2021**, **499**, 111253. (Q2)
41. Synthesis and architecture of polystyrene-supported Schiff base-palladium complex: Catalytic features and functions in diaryl urea preparation in conjunction with Suzuki-Miyaura cross-coupling reaction by reductive carbonylation; Priyanka Basu, **Sk Riyajuddin**, Tusar Kanto Dey, Aniruddha Ghosh, Kaushik Ghosh*, Sk Manirul Islam*; **Journal of Organometallic Chemistry**, **2018**, **877**, 37-50. (Q3)
42. Polymer immobilized [Mg@PS-anthra] complex: An efficient recyclable heterogeneous catalyst for the incorporation of carbon dioxide into oxiranes at atmospheric pressure and Knoevenagel condensation reaction under solvent-free condition; Ranjan Kumar Mondal, **Sk Riyajuddin**, Aniruddha Ghosh, Swarbanu Ghosh, Kaushik Ghosh*, Sk Manirul Islam*; **Journal of Organometallic Chemistry**, **2019**, **880**, 322-332. (Q3)
43. Effect of ionic size compensation by Ag⁺ incorporation in homogeneous Fe-substituted ZnO: studies on structural, mechanical, optical, and magnetic properties; Gaurav Bajpai, Tulika Srivastava, N. Patra, Igamcha Moirangthem, S. N. Jha, D. Bhattacharyya, **Sk Riyajuddin**, Kaushik Ghosh, Dharma R. Basaula, Mahmud Khan, Shun-Wei Liu, Sajal Biring* and Somaditya Sen*; **RSC Advance**, **2018**, **8**, 29228-29229. (Q2)
44. Role of Li⁺ and Fe³⁺ in modified ZnO: Structural, vibrational, opto-electronic, mechanical and magnetic properties; Gaurav Bajpai, Igamcha Moirangthem, Shuvam Sarkar, Sudipta Roy Barman, CP Vinod, Shubhra Bajpai, **Sk Riyajuddin**, Kaushik Ghosh, Dharma R Basaula, Mahmud Khan, Shun-Wei Liu, Sajal Biring*, Somaditya Sen*; **Ceramics International**, **2019**, **45**, 7232-7243. (Q1)
45. Structural, opto-electronics and magnetic study of Fe/Si doped ZnO; Gaurav Bajpai, **Sk Riyajuddin**, Kaushik Ghosh, Shubhra Bajpai, Dharma R Basaula, Subhash Bhatt, Mahmud Khan, Shun-Wei Liu, Sajal Biring, Somaditya Sen*; **Journal of Materials Science: Materials in Electronics**, **2019**, **30**, 9344-9355. (Q2)
46. Structure, dielectric, and optical properties of PbTi_(1-x)(V_{0.50}Fe_{0.50})_xO₃ perovskite ceramics ; Arun Kumar Yadav, Anita Verma, Sunil Kumar, **Sk Riyajuddin**, Kaushik Ghosh, Sajal Biring, Somaditya Sen*; **Applied Physics A**, **2019**, **125**, 418. (Q2)
47. Polymer incarcerated Palladium catalyzed facile in situ carbonylation for the synthesis of aryl aldehydes and diaryl ketones using CO surrogates at ambient conditions; Tusar Kanto Dey, Priyanka Basu, **Sk Riyajuddin**, Aniruddha Ghosh, Kaushik Ghosh, SM Islam*; **New Journal of Chemistry**, **2019**, **43**, 9802-9814. (Q2)
48. Pd NPs decorated on POPs as recyclable catalysts for the synthesis of 2-oxazolidinones from propargylic amines via atmospheric cyclizative CO₂ incorporation; Swarbanu Ghosh, **Sk Riyajuddin**, Somnath Sarkar, Kaushik Ghosh, Sk Manirul Islam*; **ChemNanoMat**, **2020**, **6**, 160-172. (Q1)
49. POP-Pd (II) catalyzed easy and safe in-situ carbonylation towards the synthesis of α-ketoamides from secondary cyclic amines utilizing CHCl₃ as the carbon monoxide surrogate; Safikul Islam, **Sk Riyajuddin**, Rostam Ali Molla, Nasima Yasmin, Kaushik Ghosh, Sk Manirul Islam*; **New Journal of Chemistry**, **2020**, **44**, 1979-1987. (Q2)
50. Exploring the Ce³⁺ ions doping effect on Optical and Magnetic Properties of NiO Nanostructures; M Naseem Siddique, Ateeq Ahmed, **Sk Riyajuddin**, Mohd Faizan, Kaushik Ghosh, P Tripathi*; **Journal of Magnetism and Magnetic Materials**, **2019**, **500**, 166323. (Q2)
51. Intrinsic Structural Distortion assisted Optical and Magnetic Properties of Orthorhombic rare-earth perovskite La_{1-x}Eu_xCrO₃: Effect of t-e hybridization; M. Naseem Siddique, Mohd Faizan*, **Sk Riyajuddin**, P Tripathi, Shabbir Ahmad, Kaushik Ghosh; **Journal of Alloys and Compounds**, **2020**, **850**, 156748. (Q1)
52. In-situ carbonylative synthesis of aromatic esters in assistance of polymer supported palladium catalyst; Tusar Kanto Dey, Priyanka Basu, **Sk Riyajuddin**, Surajit Biswas, Aslam Khan, Kaushik Ghosh, Sk Manirul Islam*; **Chemistry Select**, **2020**, **5**, 10355-10366. (Q2)

53. Tunable luminescence in $\text{Ce}^{3+}/\text{Mn}^{2+}$ co-doped ZrO_2 nanophosphor integrated with theoretical studies on possible $(\text{ZrO}_2)_n$ clusters using DFT method; Mohd Faizan*, M. Naseem Siddique, P Tripathi, Shabbir Ahmad, **Sk Riyajuddin**; *Journal of Alloys and Compounds*, 2020, 853, 157378. (Q1)

Book Chapter:

1. Large Area Graphene and Their Use as Flexible Touchscreens; Surender P. Gaur #, **Sk Riyajuddin**#, Sushil Kumar, Kaushik Ghosh*; Carbon Nanomaterial Electronics: Devices and Applications, **Springer**, 2021, ISBN No-978-981-1610-51-6 (#-both authors have an equal contribution).

Paper in conference proceeding: 4

1. 3D-Ni-Foam/Graphene Heterostructure Decorated with Cu_3P composite: A Noble-Metal free Electrocatalyst for Hydrogen Evolution Reaction; **Sk Riyajuddin**, Kashif Azmi, Sushil Kumar, Firdaus Ali and Kaushik Ghosh* **AIP Conference Proceedings**, 2020, 2265, 1, 030593. (IF-0.4) ISSN- 0094-243X, 1551-7616
2. 3D-Ni-Foam/Graphene Heterostructure Decorated with g- C_3N_4 composite: A Noble-Metal free Electrocatalyst for Hydrogen Evolution Reaction; **Sk Riyajuddin**, Firdaus Ali, Sushil Kumar, Kashif Azmi and Kaushik Ghosh* **AIP Conference Proceedings**, 2020, 2265, 1, 030598. (IF-0.4) ISSN-0094-243X, 1551-7616
3. Low temperature growth of pyroelectric triglycine sulfate single crystal for passive infrared sensing; Surender P Gaur*, Sandhya, Sushil Kumar, **Sk Riyajuddin**, Sunny Kumar, Damini Badhwar, Kaushik Ghosh; **AIP Conference Proceedings**, 2019, 2115, 1, 030400. (IF-0.4) ISSN-0094-243X, 1551-7616
4. Influence of Rare Earth Ions on Microstructural and Optical Properties of ZnO Nanostructures; **Sk Riyajuddin***, Swaleha Naseem, Wasi Khan, Shabbir Ahmad, M.Faizan and A.H Naqvi; **AIP Conference Proceedings**, 2016, 1731, 1, 050040. (IF-0.4) ISSN- 0094-243X, 1551-7616