**Department of Physics**

**BIT Mesra**

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| **SN** | **Name of Faculty Member** | **Papers Published** |
| 1. | **Dr. S. Konar** | **2021**   1. Rohit Mukherjee and **S.Konar** "Electromagnetically Induced Grating and Parity-time Symmetry in Coupled Quantum Wells", **Chinese Physics** **(Accepted, 2021)** 2. **S Konar***,*Parity-time symmetry in photonics with the emphasis to semiconductor quantum wells,**Asian Journal of Physics, Vol 30, No 1, in press (2021)** 3. Rohit Mukherjee, **S. Konar ,** and Puspashree Mishra "Phase-sensitive modulation instability in asymmetric coupled quantum wells" **PHYSICAL REVIEW A 103, 033517 (2021)**   **2020**   1. Tanushree Bhattacharya, Tripta Narayan, Soubhik Chakraborty**, Swapan Konar,** Shilpi Singh; Statistics as a Technology to Predict the Seasonal Variation of Air Pollution; **International Journal of Innovative Technology and Exploring Engineering (IJITEE)**9, 1426-1431 (2020). (Scopus) 2. Rohit Mukherjee and**S. Konar;**Parity-Time Symmetry and Asymmetric Diffraction of Light in four-level Triple Quantum Wells; ***Journal of Optics*** **22, 105402 (2020)**(**Impact Factor: 2.379**). 3. Rohit Mukherjee, **S. Konar;**Effect of quintic nonlinearity on self-phase modulation and modulation instability in multiple coupled quantum wells under electromagnetically induced transparency; ***Results in Physics*** **17**, **103090 (2020)** (**Impact Factor: 4.019).** 4. M. Sharma, V. Dixit, **S Konar**, K Ahmed, V. Dhasarathan; Endlessly single-mode photonic crystal fiber with high birefringence for sensing applications; ***Modern Physics Letters B*** 34 **(06), 2050077(2020).** (**Impact Factor: 0.94**). 5. Tripta Narayan Tanushree Bhattacharya,  Soubhik Chakraborty, **Swapan Konar**; Application of Multiple Linear Regression and Geographically Weighted Regression Model for Prediction of PM2.5;***Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci. ( in press ).***    (**Impact Factor: 0.921**).   **2019**   1. Nitu Borgohain, **S. Konar**; Broadband mid-infrared supercontinuum generation in three-level multiple quantum wells using short optical pulses; ***Optics and Laser Technology*** **120,** **105684 (2019).** (**Impact Factor: 3.319).** 2. Mohit Sharma, Vigneswaran Dhasarathan, Julia S. Skibina, Murugan Senthil Mani Rajan, **S. Konar**, Thu Trang Hoang, and Quang Minh Ng; Giant Nonlinear AlGaAs-Doped Glass Photonic Crystal Fibers for Efficient Soliton Generation at Femto-Joule Energy; ***IEEE Photonics Journal*11**, **7102411(2019)** (**Impact Factor: 2.833).**   **2018**   1. Tripta Narayan, Tanushree Bhattacharya, Soubhik Chakraborty, **Swapan Konar;**  Long-Term Statistical Characteristics of Air Pollutants  in a Traffic-Congested Area of Ranchi, India; ***Communications in Math. Stat***. 6, **141–162(2018).** (**Impact Factor: 1.50).**   **2017**   1. N. Ayyanar, D. Vigneswaran, Mohit Sharma, M. Sumati, M.S. Mani Rajan and **S.Konar,** “Hydrostatic pressure sensor using highly birefringence photonic crystal fibers”, **IEEE Sensors Journal**   **17,**[**Issue: 3**](http://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=7811156)**, 650-656 (2017).** 2. Nitu Borgohain and**S. Konar;** Supercontinuum generation in quantum wells facilitated by electromagnetically induced transparency,  **Journal of  Modern Optics** **64, 462-470** **(2017).**   **2016**   1. Nitu Borgohain, Milivoj Belic, **Swapan Konar;** Infrared supercontinuum generation in multiple quantum well nanostructures,  J. Optics  18,  115001 (2016).  (Impact Factor: 2.753). 2. Nitu Borgohain and **S. Konar** The effects of control field detuning on the modulation instability in a three-level quantum well system; **Journal of Applied Physics  119, 213103 (2016)** 3. Mohit Sharma and **S.Konar**; Broadband supercontinuum generation in lead-silicate photonic crystal fibers employing optical pulses of 50 W peak power; **Optics Communications  380, 310–319(2016)** 4. Nitu Borgohain, Mohit Sharma and **S.Konar**;  Broadband supercontinuum generation in photonic crystal fibers using cosh-Gaussian pulses at 835 nm wavelength"  **Optik 127, 1630-1634 (2016)** 5. Mohit Sharma  and  **Swapan Konar;**  Three octave spanning supercontinuum by red-shifted dispersive wave in photonic crystal fibers**; Journal of  Modern Optics  63, 501–510 (2016).**   **2015**   1. Nitu Borgohain, Milivoj Belic and **S.Konar;**  Giant parabolic nonlinearities at infrared in   lambda  type three level multiple quantum wells,  **Annals of Physics 361, 107-119(2015)** 2. Noushin Asif,  Anjan Biswas,  Z. Jovanoski and **S.Konar;** Interaction of Spatially Separated Oscillating Solitons in Biased Two-Photon  Photorefractive Materials;  **Journal of  Modern Optics 62, 1–10 (2015).** 3. Mohit Sharma , **Swapan Konar**, Kaisar R. Khan; Supercontinuum generation in highly nonlinear hexagonal photonic crystal fiber at very low power,  **Journal  of  Nanophotonics    9, 093073-8 (2015)** 4. **S. Konar** and  Nitu Borgohain, Self-phase modulation dominated supercontinuum generation employing cosh-Gaussian pulses in photonic crystal fibers;  **Journal of  Nanophotonics  9, 093098-1 (2015)** 5. **S. Konar** and  Vyacheslav A. Trofimov;   Some Aspects of Optical Spatial Solitons in Photorefractive Media and Their Important Applications;  **Pramana-journal of Physics 85, 975–992 (2015).** 6. Ruplata Kumari, Mohit Sharma and **S.Konar**; Lead silicate fiber with small dispersion and large nonlinearity at telecommunication wavelength;  **Optik 126 (2015) 2659–2662**   **2014**   1. Mohit Sharma, Nitu Borgohain, **S. Konar;** Supercontinuum generation in photonic crystal fibers possessing high birefringence and large optical nonlinearity;  **Phys. Express  4,  26 (2014).**   **2013**   1. Mohit Sarma, Nitu Borogohain and **S. Konar;**  Index Guiding Photonic Crystal Fibers with Large Birefringence and Walk-off; **Journal of Lightwave Technology  31, 3339 (2013).** 2. **S.Konar**  and Anjan Biswas;  Properties of optical spatial solitons in photorefractive crystals with Special emphasis to two-photon photorefractive nonlinearity;  **Optical Materials  35,  2581-2603 (2013).** 3. S. Shwetanshumala , **S. Konar**  and  Anjan Biswas; Ultraslow solitons due to large quintic nonlinearity in coupled quantum well structures driven by two control laser beams;  **Appl. Phys. B 111,  53–64 (2013).** 4. U. N. Pal, Pooja Gulati, Ram Prakash, Mahesh Kumar, V. Srivastava and **S. Konar;** Analysis of power in argon filled pulsed dielectric barrier discharge (DBD); **Plasma Science and Technology 15, 635 (2013).** 5. S. Shwetanshumala, Noushin Asif**, S. Konar**, Anjan Biswas,   Bright Spatial Solitons in Biased Centro-symmetric Photorefractive Medium Under Drift as Well as Diffusion Effects;  **Optik  124,  229-233 (2013).**   **2012**   1. Rakhi Bhattacharya and **S. Konar** , Dual Core Photonic Crystal Fibers for Dispersion Compensation; **Journal of  Nanophotonics  6, 063520-1 (2012).** 2. Rakhi Bhattacharya and **S. Konar**, Extremely Large Birefringence and Shifting of Zero Dispersion Wavelength of Photonic Crystal Fibers; **Optics and Laser Technology  44,  2210-2216 (2012).** 3. Laila Girgis , Kaisar R. Khan , Daniela  Milovic , Sihon H. Crutcher , **Swapan  Konar,** Anjan Biswas; Adiabatic phase variation for optical Gaussons; **Optics & Laser Technology 44,  1219 –1222 (2012).** 4. 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Asif and Anjan Biswas;  Deflection of bright spatial soliton in a biased noncentrosymmetric two-photon photovoltaic photorefractive crystal due to first order diffusion and higher order drift;  **Physica Scripta  84, 025402 (2011).** 3. **S. Konar,**  Z. Jovanoski  and I. N. Towers;  Two-color bright solitons in a three-level atomic system in the cascade configuration;   **Journal of Modern Optics**[**58**](http://www.tandfonline.com/loi/tmop20?open=58#vol_58)**, 1035-1040 (2011).** 4. **S. Konar,**  Z  Jovanoski  and I. N. Towers;  Incoherent Spatial Optical Solitons in Photorefractive Media; **Optics and Laser Technology  43, 1466 (2011).** 5. S.  Shwetanshumala  and**S. Konar**,  Modulation Instability of Plane Electromagnetic Beams in Centro-symmetric Crystals due to Two-Photon Photorefractive Effects**;   Physica Scripta  83, 025401 (2011).** 6. **S. 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Soumendu Jana and **S.  Konar**; Induced Focusing of Two Laser Beams in Cubic Quintic Nonlinear Media;  ***Physica Scripta***  **70,  354 (2004).** 6. Manoj Mishra  and  **S.  Konar**;  All Optical Light Deflection and Displacement Using Nonlinear Slab Waveguide;  ***Fiber  and Integrated Optics***  **23, 275 (2004).** 7. **S. Konar** and S. Jana; Linear and Nonlinear Propagation of sinh-Gaussian pulses in dispersive media possessing Kerr Nonlinearity;  ***Optics Communication***  **236, 7-20 (2004).** 8. S. Jana  and **S. Konar**;  Stable and Quasistable Spatiotemporal Solitons in Cubic Quintic Nonlinear Media; J. Nonlinear Optical Physics & Materials  **13, 25-36 (2004).**   **2003**   1. **S. Konar**, P.K.Barhai and S. Medhekar;  Displacement and  Deflection of Optical Beams by Nonlinear Planar Waveguide;   ***J. Nonlinear Optical Physics & Materials***  **12, 101-112 (2003).**   **2002**   1. Lakhan Singh,  S.N.Rai,  **S. 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