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11. Research Interest



1. Sensors and Actuators
2. Nano-Photonics
3. Renewable Energy Sources.

12. Research Contribution:

1. Number of patent : 01
2. IEEE Journal Paper : 02
3. International Journal Paper : 05
4. IEEE Conference Publications : 06
5. Proceedings of the International Workshop : 02
6. National Seminar/Conference Publications : 04

13. NUMBER OF PATENT : 01 (Patent no. 201731021743)

14. IEEE JOURNAL PUBLICATIONS

1. **Mahanta D. K.** and Laskar S., “*Investigation of Transformer Oil Breakdown using Optical Fiber as Sensor*”, **IEEE Transactions on Dielectrics and Electrical Insulation** Vol. 25, No. 1; February 2018, pp. 316-320.
2. **Mahanta D. K.** and Laskar S., “*Water quantity based quality measurement of transformer oil using polymer optical fiber as sensor*”, **IEEE Sensors Journal**, Vol. 18, No. 4, February 15, 2018, pp. 1506-1512.

15. INTERNATIONAL JOURNAL PUBLICATIONS

1. **Mahanta Deba Kumar**, “*Genetic Algorithm Approach for Placement Optimization of FBG Sensors for a Diagnostic System*”, **International Journal of Electrical and Electronics Engineering**, (ISSN: 2278-1676) Vol. 4, Issue 5, Jan 2013, pp 18-23.
2. **Mahanta Deba Kumar**, “*Design of Uniform Fiber Bragg Grating using Transfer matrix method*”, **International Journal of Computational Engineering Research** (ISSN: 2250-3005), Vol. 3, Issue. 5, May 2013, pp 8-14.
3. **Mahanta Deba Kumar**, Laskar Shakuntala, “*Transformer Condition Monitoring using Fiber Optic Sensors: A Review*”, **ADB U Journal of Engineering Technology** (ISSN: 2348-7305), Vol. 4, pp 142 – 145.
4. **Mahanta Deba Kumar**, Laskar Shakuntala, “*Electrical-insulating liquid: A review*”, **Journal of Advanced Dielectrics**, vol. 7, no. 4, pp. 1-9, 2017.

5. **Mahanta Deba Kumar**, Laskar Shakuntala, “*Transformer Oil Temperature Measurement Using Tungsten Filament as Sensor*”, **International Journal of Electrical Machines and Drives**, Vol. 3, no. 2, pp 17-20, 2017.

16. IEEE CONFERENCE PUBLICATIONS

1. **D. K. Mahanta** and S. Laskar, “*Power transformer oil-level measurement using multiple fiber optic sensors*”, **International Conference on Smart Sensors and Application, ICSSA 2015**, 26-28th May 2015. Kuala Lumpur, Malaysia.
2. **D. K Mahanta** and S. Laskar, “*Oil-level Measurment of Power Transformer using Optical Sensor*”, **International Conference on Energy, Power and Environment (Towards Sustainable Growth), ICEPE 2015**, 12-13th June 2015, NIT, Meghalaya.
3. **Deba Kumar Mahanta** and B. Sarma, “*Regeneration of Solid and Liquid Desiccant: A Review*”, **International Conference on Power, Control, Signals & Instrumentation Engineering (ICPCSI) 2017**, 21st and 22nd September 2017, Saveetha Eng. College, Chennai, Tamil Nadu.
4. **Mahanta D. K.** and Laskar S., “*Breakdown voltage based transformer oil analysis using optical fiber as sensor*”, **International Conference on Microoptics, MOC2017**, 19th to 22nd November 2017. Tokyo University, Japan.
5. **Mahanta D. K.** and Laskar S., “*Distance measurement using free space optics*”, **International Conference on Microoptics, MOC2017**, 19th to 22nd November 2017. Tokyo University, Japan.
6. **Deba Kumar Mahanta** and S. Laskar, “*Transformer Oil Quality Measurement Based on Temperature Rise Test*”, **International Conference on Energy, Power and Environment 2018 (ICEPE-2018)**, 1st and 2nd June 2018, NIT Meghalaya, Shillong.

17. INTERNATIONAL WORKSHOP PUBLICATIONS

1. **D.K Mahanta**, “*Present Power Scenario and Wind Energy Prospects in Assam*” **International workshop on Wind Engineering**, 23rd Feb. 2013, A.E.C, Guwahati, Assam. pp 8-12.
2. **Mahanta D. K.** and Laskar S., “*Moisture Measurement of Transformer Oil Using Optical Fiber as Sensor*”, **International Workshop on Life Management of Transformers, TRAFOTECH 2016**, 22nd to 23rd November 2016. New Delhi, India.

18. NATIONAL SEMINAR/CONFERENCE PUBLICATIONS

1. **D.K Mahanta**, “*Liquid Level Measurement using Fiber Optic Sensor*”, **National Conference on Emerging Global Trends in Engineering and Technology**, on 7th and 8th March 2014. DBCET, Guwahati, Assam
2. **D.K Mahanta**, “*Micro Hybrid Power Plant*”, **Water and Energy Seminar, The Institute of Engineers (India)**, 22nd March 2014, IEI Assam State Centre, pp 53-55.
3. **D.K Mahanta**, “*Solar Power Optimization by Tilt angle variation of Solar PV Module at Guwahati*”, **National Seminar on Solar Energy Utilization- Opportunities and Challenges in NER**, 4th April 2015, A.E.C, Guwahati, Assam. pp 38-41.

19. Professional Membership

1. IEEE Membership (No: 93797629)
2. Life member of The Institute of Engineers (India) (No: M-144656-2)