

Curriculum Vitae

1. Name : S.P. Singh |
2. Date of Birth : 30.4.1956
3. Designation: Professor
4. Mailing Address : Dr. S. P. Singh
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Indian Institute of Technology, Roorkee
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5. Education:

Degree	Discipline	University	Year
B.Sc. (Hons)	Physics(main)	A.M.U. Aligarh	1974
B.Sc Engg.	Electrical Engineering	A.M.U. Aligarh	1978
M.E.	Electrical Engineering	University of Roorkee	1980
Ph.D.	Electrical Engineering	University of Roorkee	1994 -

Details of Ph.D. Thesis supervised

	Name of student	Title of Thesis/Broad area	Status	Co-supervisor
1	S. K. Jain	Operation of Induction generator in line connected & isolated mode	Awarded -2001	Dr..J.D. Sharma
2	P.K. Modi	Voltage Stability Enhancement Using FACTS Devices	Awarded 2003	Dr..J. D Sharma
3	Anurag Trivedi	Performance Analysis of Induction Machines as SEIG for single phase isolated power supply	Awarded 2006	Dr.M.P. Sharma
4	Nand Kishore	Integrated Control of Small Hydro	Awarded	Dr. R.P. Saini

	Yadav	Plants	2006	
5	S.N. Mahto	Analysis and control of stand alone induction generators system	Awardwd 2008	Dr.M.P. Sharma
6	Dheeraj Palwalia	Design and Development of Stand Alone Generator	In progress	
7	Jatin Kumar J.D. Patel	Analysis of Wind Energy Conversion System	In progress	Dr.S.P. Gupta
8	Ramdayal Patidar	Active Power Filters for Power Quality Improvement	In progress	
9	Nitin Gupta	Harmonic Mitigation Using Active Power Filters	In progress	
10	Narasimharau .B.L	Bidirectional Power converters	In progress	
11.	Geetanjali Mehta	Power Converters for Renewable Energy Systems		
12	GuruSwamy	Power Converters		

Research Paper Published in International Journals

1. "Steady State Analysis of Self Excited Induction Generator with ac-dc Conversion Scheme for Small Scale Generation", [Electric Power System Research](#) Vol. 2, pp 95-104, 1991 (with Dr. Bhim Singh & Dr. M.P. Jain).
2. "Performance Characteristic and Optimum Utilisation of self Excited Induction Generator", [IEEE Trans on Energy Conversion](#), Vol. 5, pp. 679-685, 1990 (with Dr. Bhim Singh & Dr. M.P. Jain).
3. "Design Optimisation of Self Excited Cage Induction Generator", [Electric Power System Research](#) 22, (1991), pp. 71-76 (with Dr. Bhim Singh & Dr. M.P. Jain).
4. "Comparative Performance of Commercially Designed Induction Generator with Induction Motors Operating as Self Excited Induction Generator", [IEE Proc. Vol. 140 No. 5, Sept 1993](#), pp. 374-380 (with Dr. Bhim Singh & Dr. M.P. Jain).
5. "A New Approach for the analysis of Self Excited Induction Generator", Published in [Electric Machines and Power System](#) (with Dr. Bhim Singh & Dr. M.P. Jain).
6. " Analysis of Pole Changing Induction Generator", [Journal of Institution of Engineers India \(I.E.\)](#), Vol. 73, pp. 137-144, Aug. 1992 (with Dr. Bhim Singh & Dr. M.P. Jain).
- 7.. "Simplified Approach for the Analysis of Self Excited Induction Generator", [Institution of Engineers India \(I.E.\)](#) Vol. 76, pp. 14-17, May 1995 (with Dr. Bhim Singh & Dr. M.P. Jain).
8. "Optimisation of Self Excited Induction Generator Design", [Institution of Engineers India \(I.E.\)](#) Vol. 76, pp. 18-22, May 1995 (with Dr. Bhim Singh & Dr. M.P. Jain).

9. "Transient performance of three phase self-excited induction generator during balanced and unbalanced faults", [IEE Proceedings, Part-C, Vol. 149](#), pp. 50-57, 2002.[Jain S.K., Sharma J.]
10. 'Loss Reduction in Indian Rural Distribution System by network Reconfiguration', *International Journal of Water and Energy* Jan-March 2003, pp 30-47.
11. Voltage Regulation Optimization of Compensated Self Excited Induction Generator with Dynamic Load in [IEEE Trans on Energy conversion, IEEE Trans on Energy Conversion](#), Vol19, number 4, Dec 04, pp724-732.[SK Jain & JD Sharma]
12. Loss reduction in Indian Rural Distribution System by Network Reinforcement,' *Nigerian Journal renewable Energy*, Vol 11, No1&2, pp.63-78.
13. Load ability margin calculation of power system with SVC using artificial neural network", *Engineering Applications of Artificial Intelligence*. EAAI846, Vol 18/6 pp 695-703, 2004, [with P.K. Modi, & J. Sharma].
14. Small hydro power plant identification using NNARX structure, *Neural Computing and Applications*, [Springer Verlag London Limited](#), Vol. 14, No. 3, pp. 212-222, Sept. 2005[Nand Kishor and R. P. Saini].
15. Optimal pole shift control in application to a hydro power plant, *Journal of Electrical Engineering*, Published by The Faculty of Electrical Engineering and Information Technology of the Slovak University of Technology and The Institute of Electrical Engineering of Slovak [Academy of Sciences](#), Vol. 56, pp. 290-297, November –December 2005 [Nand Kishor and R.P. Saini].
16. Dynamic simulation of hydro turbine and its state estimation based LQ control, *Journal: Energy Conversion and Management*, Publisher: [Elsevier Science, UK](#), Vol. 47, pp. 3119-3137, 2006[Nand Kishor, and A.S. Raghuvanshi].
17. 'A review of hydropower plant models and control' *Journal: Renewable and Sustainable Energy Review*, Publisher: [Elsevier Science, UK](#), Online Published. Vol 11, pp.776-796. [Nand Kishor, & R.P. Saini]
18. Simulated response of NN based identification and predictive control of hydro plant, *Expert Systems with Applications*, Publisher: [Elsevier Science, UK](#), Vol. 32, no.1, 2007, pp. 233-244[Nand Kishor] *Volume 20, Issue 6, September 2007, Pages 795-808*
19. Nonlinear predictive control for a NNARX hydro plant model, Online published, *Journal: Neural Computing and Applications*, Publisher: [Springer Verlag London Limited](#), [Nand Kishor]
20. Comparative performance study of QN and LM algorithm in predictive control for NNARX identified model of hydro power plant, In press, *Journal: Engineering with Computers*, Publisher: [Springer Verlag London Limited](#), [Nand Kishor, A. S. Raghuvanshi and P. R. Sharma].
21. Adaptive intelligent hydro turbine speed identification with water and random load disturbance, in Press. *Journal: Engineering Applications of Artificial Intelligence*, 20 (2007) 795–808 Publisher: [Elsevier Science, UK](#) [Nand Kishor and A. S. Raghuvanshi].
22. Modi P.K., Singh S. P. and **Sharma J.**, "Voltage stability evaluation of power system with facts devices using fuzzy neural network",

- International Scientific Journal Engineering Applications of Artificial Intelligence, Vol. 20, Issue 4, June 2007, pp. 481-491
23. Modi P.K., Singh S. P. and **Sharma J.**, 'Loadability margin calculation of power system with SVC using artificial neural network", Engineering Applications of Artificial Intelligence, Volume 18, Issue 6, September 2005, Pages 695-703
 24. VOLTAGE STABILITY EVALUATION OF POWER SYSTEM WITH FACTS DEVICES USING FUZZY NEURAL NETWORK Engineering Applications of **Artificial Intelligence- 20, (2007) pp.481-491, available on line 17 oct, 2006** [PK Modi, JD Sharma]
 25. S. N. Mahato, M. P. Sharma and S. P. Singh, "Transient performance of a single-phase self-regulated self-excited induction generator using a three-phase machine", **Electric Power Systems Research**, Vol. 77, pp. 839-850, 2007, Publisher: *Elsevier* [SN Mahto, MP Sharma].
 26. S. N. Mahato, M. P. Sharma and S. P. Singh, "Steady-state and dynamic behavior of a single-phase self-excited induction generator using a three-phase machine", **International Journal of Emerging Electric Power Systems**, Vol. 8, Issue 3, Article 5, August 2007. Publisher: *Be Press* [SN Mahto, MP Sharma].
 27. Performance Analysis of DC motor drive in Electric Traction with wheel slip control, Institution of Electrical Engineers, India, Vol. 87, pp.55-60 issue, September 2006.
 28. S. N. Mahato, M. P. Sharma and S. P. Singh, "Selection of optimal capacitors for maximum power output of a single-phase self-excited induction generator using a three-phase machine", **Electric Power Components and Systems**, Vol. 35, No. 8, pp. 857-870, 2007, Publisher: *Taylor & Francis*. [SN Mahto, MP Sharma].
 29. Fuzzy neural network based voltage stability evaluation of power systems with SVC Applied Soft Computing 8 (2008) 657–665{PK Modi, JD Sharma]
 30. S. N. Mahato, S. P. Singh and M. P. Sharma, "Capacitors required for maximum power of a self-excited single-phase induction generator using a three-phase machine", **IEEE Trans. on Energy Conversion**. Vol. 23, No. 2, pp. 372-381, June 2008. [SN Mahto, MP Sharma].
 31. S. N. Mahato, S. P. Singh and M. P. Sharma, "Excitation capacitance required for a self-excited single-phase induction generator using a three-phase machine", **International Journal of Energy Conversion and Management**, Vol. 49, Issue 5, pp. 1126-1133, May 2008. Publisher: *Elsevier*.
 32. DSP Based Induction Generator Controller for Single Phase Self Excited Induction Generator" , International Journal of Emerging Electric Power Systems.the Berkely Electronic Press Manuscript 1788. Vol. 9 : Issue. 1, Article 2,2008 . P1:11, D. K Palwalia, S. P. Singh
<http://www.bepress.com/ijeeps/vol9/iss1/art2>,
 33. DSP based design and implementation of induction generator controller for self excited induction generator, paper no. 7363 Electric Power Components & Systems volume 36, number 10, October 2008. D. K Palwalia, S. P. Singh

34. "New load controller for single phase self excited induction generator"
Electric Power Components and Systems, volume 37, number 6, pp.
659:671, June 2009. D. K Palwalia, S. P. Singh.
35. R. D. Patidar and S. P. Singh, "Active and reactive power control and
quality management in DG-grid interfaced systems," ARPN Journal of
Engineering and Applied Science, vol. 4, no. 4, pp. 81-90, May, 2009
36. R. D. Patidar and S. P. Singh, "Optimal controller for shunt active filter
under unbalanced and distorted 3P4W distribution systems," International
Journal on Power System Optimization (IJPSO), vol. 1, No2, pp.159-169,
July-Dec 2009.
37. R. D. Patidar and S. P. Singh, "Performance evaluation of different line
current shaping controllers of shunt active power filters," **International
Journal of Power Electronics (IJPELEC)**, in press.
38. R. D. Patidar and S. P. Singh, "DSP based shunt active filter controller for
customer generated harmonics and reactive power compensation,"
International Journal of Electric Power Components and Systems, in press.

(B) Paper Presented in Conference/Symposium

1. Evaluation of Optimum Installed Capacity of Micro Hydro Power Station
using Personal Computer Presented at symposium on Planning control and
Management of Construction Projects Institution of Engineers (I) Roorkee
local Centre Feb. 1991 (with Sh. S. Mittal).
2. Design Optimisation of a Squirrel Cage Induction Generator, Presented at
National Symposium on computer applications in various fields, held at
Govt. Engg. College Amravati (Maharashtra, India) 1990 (with Dr. Bhim
Singh & Dr. M.P. Jain).
3. "Small Hydro and a Role of Consultant", presented in All India seminar on
Small Hydro held at Institution of Engineers, Tirupati during Sept. 6-7, 1994
(with Dr. J.D. Sharma & Sh. Arun Kumar).
4. "Small Hydro Power in India", presented in International Seminar on Non-
conventional Energy Utilisation, organised by Institution of Engineers
Bangalore, March 17-18, 1995 (with Dr. J.D. Sharma & Sh. Arun Kumar).
5. Hydro Power - Status Technology and R&D Areas (Nov. 1995), presented in
Seminar on S&T Inputs to National Renewable Energy Policy and
Legislation, New Delhi.
6. "Selection of number and size of unit of small hdyro plant", First
International Conference on Renewable Energy-Small Hydro, Feb. 1997
(with Arun Kumar & Dr. J.D. Sharma).
7. "Dynamic Simulation of Line connected Induction Generator", First
International conference on Renewable Energy Small Hydro, Feb. 1997
Hyderabad, India (with Sh. Sanjay K. Jain, Dr. J.D. Sharma) pp. 455-465.
8. "Optimum Design of Line Excited Induction Generator", International
conference on computer application in Electrical Engineering, Recent
advances, Roorkee Sept. 8-11, 1997, pp. 576-582 (with Dr. Bhim Singh &
Dr. M.P. Jain).

9. Small Hydro Power scenario in U.P., All India Seminar on Development of Hydro Power Potential in India organised by Institution of Engineers April 22, 1997, Lucknow.
10. National Prospective for Renovation and Modernisation of Small Hydro Stations Work shop on Renovation Modernisation of old Mini Hydel Power Station, centenary celebration of India oldest Hydel plant at Sidrapong, Nov. 29-30, 1997, Darjeeling.
11. “ Reviving of Small Hydro Potential in Uttar Pradesh., All India Seminar on Developmental Needs of Uttarakhand Region, 20-21 Feb 1999, Organised by Institution of Engineers local Centre Dehra Dun
12. Operation and Maintenance aspects of SHP stations, International short term course on small hydro power at Bangladesh University of Engineering and technology may 6-9 1999 pp144-168.
13. Cost Benefit Analysis of Hydro Electric Projects, International short term course on small hydro power at Bangladesh University of Engineering and technology may 6-9 1999 pp 204-215
14. Dynamic Analysis of Self Excited Induction Generator, Chinese 3rd, International conference on Electrical machines, Xian.,**Aug 29-31st,1999**
15. ”Recent Development in Grounding of Switch yard. “, Seminar on **Electricity distribution in developing countries** organised by CBIP, New-Delhi Jan 20-21, 2000.
16. Small Hydro Power Potential in Uttarakhand Region, ‘seminar on Harnessing of Uttarakhand Resources for development of Himalaya’ held at Dehradun on 10th Sept 2000.
17. Modelling and Simulation of Small Hydro Plant, International Conference on Mathematical Modelling and Simulation Organised by Maths Department University of Roorkee, Roorkee, Jan 28-31, 2001[PK Modi].
18. ANN BASED Load ability Margin Calculation of Power Systems With STATCOM, The Third IASTED International Conference on Power and Energy, Systems~Euro, PES 2003~September, 3-5, 2003 Marbella, Spain[PK Modi & JD Sharma].
19. ‘ARTIFICIAL NEURAL NETWORK BASED VOLTAGE STABILITY EVALUATION’The Third IASTED International Conference on Artificial Intelligence and Applications ~AIA 2003~ September 8-10, 2003, Benalmádena, Spain[PK Modi & JD Sharma].
20. “**Most** Appropriate Rationalized Transfer Function with Elastic Water Column Effect”, *Proc. of First National Conference on Instrumentation and Control, Organized by Deptt. of Instr & Control Engg., National Institute of Technology, Tiruchirappalli, Dec.5-6, 2003.* [Nand Kishor &RP Saini].
21. “**Governor** Gain Influence on Stability of a Hydro Unit with Single Penstock and Multi-units with Common Penstock”, *Proc. of National Systems Conference, Organized by Deptt. of Electrial Engg.,Indian Institute of Technology, Kharagpur, and Systems Society of India, Dec. 17-19, 2003, pp. 170-174,[Nand Kishor &RP Saini].*.
22. “LQG Controller for Speed Governing of a **Hydro-turbine**”, in *Proc. of International Conference on Systemics, Cybernetics and Informatics, Vol. I, Hyderabad, Feb. 12-15, 2004. pp. 174-179, [Nand Kishor &RP Saini].*,
23. “LQG/ LTR Controller for Speed Governing of **Hydro-Turbine**”, in *IEEE Proceedings of MELECON-2004, Dubronovik, Croatia, May 12-15,*

- 2004 pp.1125-1128 [Nand Kishor &RP Saini].
- 24 Self excited Induction generator as downsizing technology for generation of electricity for Rural development, International seminar on downsizing technology for Rural development ISTRD-2003 Bhubaneswar Oct 7-9,2003, [SN Mahto & MP Sharma]
 - 25 “**The identification** of nonlinear dynamics of hydropower plant using ARX structure”, in *Proc. of National Conference of Control and Dynamical Systems, Indian Institute of Technology, Bombay, Mumbai*, Jan. 27-28, 2005, [Nand Kishor, R. P. Saini] .
 - 26 ‘**Coordinated** control for the exciter and governor in a small hydropower plant’, in *Proc. of NPSC-2004, Organized by Deptt. of Electrial Engg.,Indian Institute of Technology, Madras, Chennai*, Dec. 27-30, 2004, Vol. I, pp. 431-436 [Nand Kishor, R. P. Saini].
 - 27 Voltage regulation schemes for self excited induction generators,’National workshop on emerging scenario of hydro thermal power(ESHTP), 37th Engineers Day, SHSL Central Institute of Training and Technology, Patiala, pp1-5 Sept 2004.{AK Trivedi]
 - 28 Analysis of 3 phase induction machine for single phase power, using an optimization algorithm, nation conference on optimization technique and their application (NCOTA-2005, Banaras Hindu University 20-22 Jan 2005(AK Trivedi].
 - 29 Integrated use of Softwares for Selection of Turbines of Small Hydro Projects at canal falls’ Conference on hydro power development organized by CBIP at Kathmandu Nepal, June 2005 [MK Singhal]
 - 30 “ANN Based Voltage Stability Evaluation”, IEE International Conference on Energy, Power and Information Sector, PEITSICON-05, 28-29 Jan. 2005, Kolkata, India, [P.K.Modi, & J. D. Sharma]
 - 31 On-line Self-tuning controller for hydro plant using approximate transfer **function**, CERA-05 Roorkee, pp. 79-82[Nand Kiskor & SN Mahto].
 - 32 S. N. Mahato, M. P. Sharma and S. P. Singh, “Dynamic Behaviour of a Self-Excited Self-Regulated Single Phase Induction Generator Using a Three Phase Machine” published in the Proceedings of the International Conference “**Computers Applications in Electrical Engineering-Recent Advances (CERA – 05)**”, pp. 520-527, 28th September to 1st October, 2005, I.I.T. Roorkee, India.
 - 33 “A Neuro Fuzzy FACTS Controller”, submitted to International Conference CERA-05, IIT Roorkee, India[PK Modi & JD Sharma]. .
 - 34 “A STATCOM Controller using Adaptive Network Based Fuzzy Inference System”, submitted to 2nd Indian International Conference on Artificial Intelligence, IICAI-05, Pune, India, [PK Modi & JD Sharma].
 - 35 Stand Alone Hybrid Energy System for isolated supply, International conference on science and technology, St Berchmanss College Changanaserry, TB, 10-13th Aug 2005.{SN Mahto]
 - 36 Modeling and Simulation of Hydropower Plant’ co-authored by S P Singh and S K Singhal at the International Conference on ELECTRICITY - THE ENERGY CARRIER FOR THE PRESENT AND THE FUTURE on 3-5 February 2006 at Hotel Oberoi Grand, **Kolkata and in press for Publication in** Indian Journal of Power & River Valley Development.
 - 37 ‘Qualitative Approach to the hydro control system’ ‘ National Seminar on Quality Management in development of Uttaranchal Dehradun June, 2005.

- 38 State estimation based LQ optimal control in Application to Hydro Plant', 2006 IEEE Power India Conference, April 10-12, New Delhi, [Nand Kishor & A.S. Raghuvanshi].
- 39 Gate-position and turbine-generator unit speed signal approximation with fuzzy clustering for TS fuzzy model', Accepted and to be published in 2nd International Symposium on Evolving Fuzzy Systems, EFS 2006, Lake District, UK, Sept. 7-9, 2006, pp,[Nand Kishor & A. S. Raghuvanshi]
- 40 Fuzzy models for the study of hydro power plant dynamics Accepted and to be published in 2nd International Symposium on Evolving Fuzzy Systems, EFS 2006, Lake District, UK, Sept. 7-9, 2006, pp,[Nand Kishor, A.S. Raghuvanshi & PR Sharma]
- 41 Analysis of transient Behaviour of a single-phase self-regulated self-excited induction generator using a three-phase machine, [IEEE Conference on Industrial Technology](#), Mumbai, Mumbai,15-17 Dec., 2006 Page 2709-2714 [**SN Mahto, MP Sharma**].
- 42 Analysis of dynamic performance of a single-phase self-regulated self-excited induction generator using a three-phase machine, LAREF- 2006, Latin America Renewable Energy Fair, Brasil, **Accepted**, [**SN Mahto, MP Sharma**].
- 43 Determination of minimum and maximum capacitances of a self-regulated self-excited single-phase induction generator using a three-phase machine, India International Conference on Power Electronics, Chennai,19-21 Dec., 2006 Page 28-33 Dec 2006
- 44 S. N. Mahato, M. P. Sharma and S. P. Singh, "Transient analysis of a single-phase self-excited induction generator using a three-phase machine feeding dynamic load", Proceedings of "**IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2006)**", pp. 1-6, December 2006.
- 45 S. N. Mahato, S. P. Singh and M. P. Sharma, "Dynamic eigenvalue analysis of a self-regulated self-excited single-phase induction generator using a three-phase machine", Proceedings of "**National Power Systems Conference 2006**", December 2006. .
- 46 Design and implementation of induction generator controller for single phase self excited induction generator Proceedings of IEEE Conference on Industrial Electronics and Applications, pp 400-404, 3-5 June-2008, **Singapore** [D. K Palwalia, S. P. Singh,]
- 47 A New DSP Based Controller for Single Phase Self Excited Induction Generator Proceedings of IEEE PES–Power India conference, 12-15 Oct.-2008, New Delhi [D. K Palwalia, S. P. Singh]
- 48 Voltage and Frequency Regulation of Single Phase Self Excited Induction Generator Proceedings of National System Conference (NSC-2008), pp. 244-249, Roorkee [D. K Palwalia, S. P. Singh]
- 49 R. D. Patidar and S. P. Singh, "A single-phase hybrid filter to improve power quality," Proceeding of 32nd National System Conference (NSC-2008), IIT Roorkee, India, pp. 83-88, December16-18, 2008.
- 50 R. D. Patidar, S. P. Singh, and J. D. Sharma, "A new controller for var compensation and harmonics reduction using shunt active filter," Proceeding of International Conference on Power System Analysis, Control and Optimization (PSACO-2008), Andhra University, Visakhapatnam, India, pp. 493-498, March13-15, 2008.

- 51 R. D. Patidar, S. P. Singh, and J. D. Sharma, "Harmonics elimination and var compensation for 3P3W and 3P4W distribution systems using shunt active filters," Proceeding of IASTED International Conference on Power and Energy Systems (PES-2008), Baltimore, USA, paper no. 617-085, April 16-18, 2008.
- 52 R. D. Patidar, S. P. Singh, and D. K. Khatod, "Single-phase single-stage Grid-interactive photovoltaic system with active filter functions," **Accepted for IEEE-PES General Meeting, USA, and July 2010.**
- 53 R. D. Patidar and S. P. Singh, "DG-grid interfaced with energy storage shunt active filter to improve power quality," Proceeding of IEEE, International Conference on Computer Communication and Networking (ICCCN-2008) Karur, India, December, 17-19, 2008.
- 54 R. D. Patidar, S. P. Singh, and D. K. Khatod, "Single-phase single-stage Grid-interactive photovoltaic system with active filter functions," **Accepted for IEEE-PES General Meeting, USA, and July 2010.**
- 55 R. D. Patidar and S. P. Singh, "DG-grid interfaced with energy storage shunt active filter to improve power quality," Proceeding of IEEE, International Conference on Computer Communication and Networking (ICCCN-2008) Karur, India, December, 17-19, 2008.
- 56 R. D. Patidar and S. P. Singh, "Harmonic, reactive and neutral currents compensation and load balancing in 3P4W distribution systems," Proceeding of IEEE, International Conference on Computer Engineering and Technology (ICCET-2009), Singapore, vol. 2, pp. 512-526, January 22-24, 2009.
- 57 R. D. Patidar and S. P. Singh, "A fast acting $1/z$ controller for shunt active filter operation for harmonics and reactive power compensation," Proceeding of IEEE, International Conference on Industry and Information Systems (ICIIS-2008), IIT Kharagpur, India, December 8-10, 2008.
- 58 R. D. Patidar and S. P. Singh, "Harmonics estimation, and modeling of residential and commercial loads," Proceeding of IEEE International Conference on Power Systems (ICPS-2009), IIT Kharagpur, India, December 27-29, 2009

Details of Consultancy and Research Project handled

Details of sponsored & consultancy projects handled during last 5 years.

Prepared detailed projects reports of small hydro projects on condenser discharge of thermal plants.

1. Singrauli super thermal power projects, sponsored by **NTPC**
2. Korba super thermal power projects, sponsored by **NTPC**
3. Farakka super thermal power projects, sponsored by **NTPC**
4. Unchahar thermal power projects, sponsored by **NTPC**
5. Anta thermal power project, sponsored by **NTPC**
6. Prepared detailed projects report of 35 small hydel projects of Arunachal Pradesh, Mizoram, Jammu and Kashmir, Tripura and private developers of tea states in Darjeeling area Sponsored by Department of Power of various state agencies sponsored by **MNES** .
7. Vetting of engineering design of small and mini hydel project of Arunachal Pradesh (about 10 projects cost Rs. 19 lacs) sponsored by **DOP** Arunachal Pradesh.
8. Project appraisal of seven small hydel projects located on canal falls and dam toe (of Orissa state) **Sponsored by MNES**.
9. Financial analysis of 8 MW Kharsang gas project located in Arunachal Pradesh using two part tariff method sponsored by Department of power.
10. Development of software for data bank.(3 lacs, **R&D**) **Sponsored by MNES**
11. Execution/commissioning/testing of 50 portable sets ranging from 5-15 kW for the different sites in 7 states (J&K, Himachal,UP,Bihar, West Bengal, Arunachal, Meghalaya) with varying head & discharge (varying discharge from 3 to 70 m lps and head varying from 30 to 70m).(40 lacs, **R&D**)) sponsored by **MNES**
12. Pre-investment study of New and innovative small hydro options for IREDA from its onward submission to World Bank.
13. Design and Development of micro processor based protection, control of SHP Projects.(3.0 lacs **AICTE, R&D**)
14. Techno -Economic feasibility of Hydrogen generation from off-Peak Electricity. (3 lacs, **MNES R&D**)
15. Vetting of canal fall SHP on Ongole branch canal, Sponsored by **IREDA, New Delhi**
16. Vetting of Bhandardhara project for Renovation, Sponsored by **IREDA, New Delhi**
17. Co-ordinator for Pre-investment study project for new and innovations of SHP for world bank, contributed substantially in developing cost modelling for SHP for different range of head and capacity, financial analysis, hydrological analysis of ungauzed catchment and risk analysis of hydro project. Apart from this made substantial contribution in writing the report viz. Executive summary, renovating and uprating of SHP with limited hydrology etc (20 lacs) Sponsored by **IREDA, New Delhi**
18. Demonstration of Automation and Integrated control of Sobla Small Hydro Project (2x3 MW) Rs 8.0 lacs sponsored by CANMET, Canada.
19. Study on Design and Development Model SHP based self sustaining projects PFC New Delhi-20 lacs.
20. DPR for R&M of 10 SHP DOP AR. Pradesh Govt 7 lacs.

21. Design of distribution system for Yakla, sponsored by MNES 1.0 lac.
22. DPR for R&M and Automation of Massanjore WBSEB 2.5 lacs
23. DPR for R&M and Automation of 6 SHP projects in Darjeeling, WSEB, 7.5 lacs
24. Design Approval of Pump Automation Panel, M/s Garhwal Jal Sansthan Dehradun, 0.20.
25. Techno Economic Analysis of Jakhol, Naitwar, Tuini Hydro electric projects (WRDTC, Sponsored by Uttaranchal Power Corporation, Rs 15 Lacs) during 2003.
26. Feasibility study of SHIKIDI SHP project at Rohru (Shimla) sponsored by Delhi based private co (0.6 lacs).in 2004.
27. Testing of XLPE cables sponsored by XEN Uttaranchal Power Corporation Ltd. Kaulagarh Power House, FRI Campus Dehradun Dehradun Rs 0.30 lacs in June 2005.
28. Preparation of DPR of Purukul and Bijapur Projects (for Infrastructure Leasing & Financial Services limited (Work awarded in July 2006, amount Rs 6.5 lacs). (2006-2007).
29. Hydraulic Transient study of SEWA 11 Hydro electric Plant sponsored by BHEL Bhopal (EED-1---06/2006-2007 amount Rs. 3,11,382.(2006-2007)