

# Dr. D. K. Sambariya

Resume

Karmanye Vadhikaraste, Ma phaleshou kada chana, Ma Karma Phala Hetur Bhurmatey Sangostva Akarmani

### Contact detail

Address Associate Professor, Department of Electrical Engineering, Rajasthan Technical

(Off.) University, Kota, Rajasthan, 324010, India

Address 898-C, Shreenathpuram, Kota, Rajasthan, 324010, India

(Res.)

Contact Mobile - +91-9982252205, Tel. Phone - +91 (744) 247 - 2429

E-mail dsambariya\_2003@yahoo.com, dksambariya@rtu.ac.in

RTU page www.rtu.ac.in

#### Education

1989–1994 **Bachelore of Engineering (Electrical Engineering)**, Malviya Regional Engineering College (Malviya National Institute of Technology), Jaipur, Rajasthan, India, First Division.

Affiliated to, "University of Rajasthan", Jaipur

2003–2007 **Masters of Engineering (Power System Engineering)**, Engineering College Kota (Rajasthan Technical University), Kota, Rajasthan, India, First Division (Hounors). Affiliated to, "University of Rajasthan", Jaipur

2011–2015 **Ph. D. (Electrical Engineering, Power system)**, *Indian Institute of Technology Roorkee*, Roorkee, Uttaranchal, India, .

#### Master thesis

title Fuzzy Logic based Robust Power System Stabilizer

supervisors Rajeev Gupta, Professor, Deptt. of ECE & EIC and A. K. Sharma, Associate Professor, Deptt. of Electrical Engg., Rajasthan Tchnical University, Kota, 324010, India

description It includes the design of fuzzy logic based power system stabilizers to improve small signal stability. The controller is validated on single-area infinite-bus power system (SMIB) and two-area four-machine power system. The fuzzy logic controller is design with different membership function and defuzzification methods. The robust operation of the FPSS is tested for wide range of operating conditions of the system and found superior in performance as compared to conventional PSS.

## Ph. D. thesis

title Small Signal Stability Enhancement using Power System Stabilizer

supervisors Raiendra Prasad. Professor. Department of Electrical Engineering. Indian Institute of Technology Roorkee, Roorkee, 246667, Uttaranchal, India

description Power System Stabizers (PSS) are added to excitation system to enhance the damping of low frequency oscillations.

- o Five different methodologies are used to design the power system stabilizer.
  - Design of conventional PSS using bat algorithm and harmony search algorithm.
  - Design of proportional integral derivative (PID) type PSS using bat algorithm and harmony search algorithm.
  - Design of optimal scaling factor based fuzzy PSS using bat algorithm and harmony search algorithm
    - · Optimal input signal scaling factors
    - · Optimal input-output scaling factors
  - Design of new rule table based fuzzy logic based PSS.
  - Design of interval type 2 fuzzy logic based power system stabilizer
- o The above controllers are tested on three benchmark systems with wide range of operating conditions.
  - Single-machine connected to infinite-bus power system
  - Two-area four-machine ten-bus power system
  - IEEE New England ten-machine thirty nine-bus power system
- The controllers are validated on wide range of operating conditions.
- A comprehensive comparative analysis of these controllers is carried out in terms of three different performance indices as following.
  - Integral of time weighted absolute error (ITAE)
  - Integral of absolute error (IAE)
  - Integral of squared error (ISE)
- o The design of above optimal controllers have been considered with different objective functions as following
  - Time-domain objective functions as
    - Integral of time weighted absolute error (ITAE)
    - · Integral of absolute error (IAE)
    - Integral of squared error (ISE)
  - Eigenvalue based objective functions as
    - · Shifting of eigenvalue in wedge-shaped sector
    - · Shifting of eigenvalue in left of s-plane
    - · Shifting of eigenvalue in D-shaped sector

The thesis work may be a good source of different type of PSSs with application of new techniques in the field of small signal stability enhancement.

# Experience

- 1996–2002 **Lecturer**, *Principal*, *Department of Electrical Engineering, Engineering College Kota*, Kota, 324010, Rajasthan, India.
- 2002–2007 **Lecturer (Senior Scale)**, *Principal, Department of Electrical Engineering, Engineering College Kota*, Kota, 324010, Rajasthan, India.
- 2007–2010 **Assistant Professor or Lecturer (Slection Grade)**, Vice Chancellor, Department of Electrical Engineering, Rajasthan Technical University, Kota, 324010, Rajasthan, India.
- 2010-till date **Associate Professor**, *Vice Chancellor, Department of Electrical Engineering, Rajasthan Technical University*, Kota, 324010, Rajasthan, India.

## STTP Attended

- 2015: Short term training programme on, "Swachh Bharat Abhiyan: Role of Technical
- 1-Week *Institutions through ICT*", at NITTR Conducted at Rajasthan Technical University, Kota, during November 02 06, 2015.
- 2015: Short term training programme on, "Trends and Challenges in Emerging Power
- 1-Week *Systems*", at Malaviya National Institute of Technology, Jaipur, during October 19 23, 2015.
  - 2015: Short term training programme on, "Advances in power system engineering", at
- 1-Week Sardar Vallabhbhai National Institute of Technology, Surat, during June 22 26, 2015.
- 2015: Short term training programme on, "Optimization techniques using nature inspired
- 1-Week *algorithms for engineering applications*," at Rajasthan Technical University, Kota, during January 19 23, 2015.
- 2013: Short term training programme on, "Industrial Applications of Stochastic Modeling
- 1-Week and Optimization", at Indian Institute of Technology Roorkee, Roorkee, during August 12-16, 2013.
  - 2013: Short term training programme on, "High Voltage Direct Current Transmission:
- 1-Week *Past and Present*", at Indian Institute of Technology Roorkee, Roorkee, during July 08-12, 2013.
- 2013: Short term training programme on, "Virtual Instrumentation and Circuit simulation
- 2-Weeks using LABVIEW & MULTISIM", at National Institute of Technical Teachers' Training & Research, Bhopal 462 002, M. P., India, during June 24, 2013 July 05, 2013.
  - 2013: Short term training programme on, "Developments and Challenges in Cloud Com-
- 1-Week *puting*", at Indian Institute of Technology Roorkee, Roorkee, during June 10 14, 2013.
- 2013: Short term training programme on, "Nature Inspired Computational Intelligence",
- 2-Weeks at Shaheed Bhagat Singh State Technical Campus, Ferozepur, during May 6-17, 2013.

- 2013: Short term training programme On, "Cloud Computing and its Application in En-
- 1-Week *gineering and Sciences (CCAES-2013)*", at Rajasthan Technical University, Kota, during April 20-24, 2013.
- 2013: Short term training programme on, "Power Electronics, Drives & Matlab Applica-
- 1-Week *tions*", at Rajasthan Technical University, Kota, during March 18, 2013 March 22, 2013.
- 2013: Short term training programme on, "Innovations and New Product Development",
- 1-Week at Maulana Azad National Institute of Technlogy, Bhopal, during February 15-19, 2013.
  - 2012: Short term training programme on, "Matlab and its Applications", at National
- 1-Week Institute of Technical Teachers Training & Research, Chandigarh, during November 26-30, 2012.
  - 2012: Short term training programme on, "Power Transformer: Trends in Design, Analysis,
- 1-Week *Protection and Condition Monitoring*", at Indian Institute of Technology Roorkee, Roorkee, during June 4, 2012 June 8, 2012.
- 2008: Short term training programme on, "Advance Applications of Power Electronics and
- 2-Weeks *Drives*", at Malaviya National Institute of Technology, Jaipur during June 30, 2008 July 11, 2008.
  - 2006: Short term training programme on, "Multi Functional Approach for Technical Teach-
- 2-Weeks *ers in new Millenium*", at Engineering College Kota, during June 19, 2006 July 1, 2006.
  - 2005: Short term training programme on, "Industry Institute Interaction", at NITTR
- 1-Week Conducted at Engineering College, Kota, during September 12-16, 2005.
  - 2004: Short term training programme on, "High Performance Power Electronics Controlled
- 2-Weeks *Industrial Drives*", at Malaviya National Institute of Technology, Jaipur, during December 20 31, 2004.
  - 2003: Short term training programme on, "Issues in Real Time Computer Systems",
- 2-Weeks at Malaviya National Institute of Technology, Jaipur during December 23, 2002 January 03, 2003.
  - 2002: Short term training programme on, "Software Quality Assurance", at Malaviya
- 2-Weeks Regional Engineering College, Jaipur, during December 24, 2001 January 04, 2002.

## Publications from Master Thesis

The following publications in conferences and journals are related to the work carried out during my thesis of Masters of Engineering in Electrical Engg. (Power System) from Department of Electrical Engg., Engineering college Kota, 324010, India. It includes total articles as 12; covering 10 papers in conferences and 02 papers in journals. The detail of these articles is given as following:

Int. Conf. Aug. 20-22, 2004 [1]

Int. Conf. Dec. 27-30, 2004 [2]

Int. Conf. Jan. 28-29, 2005 [3]

Int. Conf. Jan. 28-30, 2005 [4]

Int. Conf. Sep. 29 - Oct. 1, 2005 [5]

Int. Conf. Oct. 22-23, 2005 [6]

Nat. Conf. Mar. 8-10, 2006 [7]

Int. Conf. Dec. 15-17, 2006 [8]

Int. Jour. May. 17, 2010 [10]

## Publications from Ph. D. Thesis

The following articles in conferences and journals are related to the work carried out during my thesis of Doctor of Philosophy (Ph. D.) in Electrical Engineering from Department of Electrical Engg., Indian Institute of Technology Roorkee, 247667, India. It includes contribution of articles as 14; covering 10 papers in conferences and 02 papers in journals. The detail of these articles is given as following:

```
Int. Conf. Oct. 26, 2012 [13] Int. Conf. Jan. 4-5, 2013 [14] Int. Conf. Jan. 23-25, 2013 [15] Int. Jour. Oct. 30, 2013 [16] Int. Jour. Oct. 30, 2013 [17] Int. Jour. Apr. 2014 [18] Int. Jour. Oct. 2014 [19] Int. Conf. Jun. 15-16, 2015 [20, 21] Int. Jour. Jun. 17, 2015 [22] Int. Jour. Jul. 1, 2015 [23] Int. Jour. Jul. 16, 2015 [24] Int. Jour. Oct. 30, 2015 [25] Int. Conf. Dec. 21-22, 2015 [26]
```

## Publications other than thesis's

The articles includes from the work carried out on the topics other than the topics covered in the above thesis's. It includes total publications as 23; covering conference papers as 17 and journals as 06. The major topics covered are sliding mode control, fast output sampling, periodic output feedback, stable model order reduction techniques, fuzzy logic control to AGC and AVR system, application of soft computing techniques to load frequency control and model order reduction techniques. The detail of these papers is given as following:

```
Int. Conf. Jan. 28-29, 2005 [27, 28]
                                                  Int. Conf. Jan. 28-30, 2005 [29]
Nat. Conf. Nov. 25-26, 2005 [30]
                                                 Nat. Conf. Dec. 12-14, 2012 [31, 32]
Int. Conf. Sep. 29-30, 2012 [33]
                                                  Int. Jour. Sep. 29-30, 2012 [34]
Int. Conf. Dec. 21-23, 2012 [35]
                                                  Int. Conf. Nov. 16-17, 2012 [36]
Int. Jour. Nov. 12, 2012 [37]
                                                  Int. Conf. Nov. 09-11, 2012 [38]
Int. Conf. Jan. 23-25, 2013 [39]
                                                  Int. Conf. Jan. 04-05, 2013 [40]
 Int. Jour. Jul. 2015 [41]
                                                  Int. Conf. Dec. 21-22, 2015 [42]
 Int. Jour. Dec. 28, 2015 [43]
                                                  Int. Jour. Dec. 29, 2015 [44]
 Int. Jour. Jan. 1, 2016 [45]
                                                  Int. Conf. Jan. 7-8, 2016 [46-49]
```

# Academic session wise publications

```
2004–2005 Con: 07 [1–4,27–29], Jour: 00 2005–2006 Con: 04 [5–7,30], Jour: 00 2006–2007 Con: 01 [8], Jour: 00 2007–2008 Con: 00, Jour: 00 2008–2009 Con: 00, Jour: 01 [9] 2009–2010 Con: 00, Jour: 01 [10] 2010–2011 Con: 02 [11,12], Jour: 00 2011–2012 Con: 00, Jour: 00 2012–2013 Con: 11 [13–15,31–33,35,36,38–40], Jour: 02 [34,37] 2013–2014 Con: 00, Jour: 03 [16–18] 2014–2015 Con: 02 [20,21], Jou: 02 [19,22] 2015–2016 Con: 06 [26,42,46–49], Jour: 07 [23–25,41,43–45]
```

Publications Conferences: 33, Journals: 16, Total: 49

# Supervisor for Masters Thesis

Vivek Nath The thesis titled, "Load Frequency Control Using Intelligent and Soft Computing Techniques", have been completed on Jan. 16, 2016 from Department of Electrical Engg. (Power System Engg.), Rajasthan Technical University, Kota, 324010, India. (Roll No. - 13EUCPS617; Enrol. No. - 13E2UCPSM1XP617)

Total publications from the thesis are 4 in numbers [41, 43, 46, 49].

The thesis titled, "Model Order Reduction of Linear Time Invariant System using Manohar Differentiation Method and Meta Heuristic Techniques", have been submitted on Jan. 12, 2016 from Department of Electrical Engg. (Power System Engg.), Rajasthan Technical University, Kota, 324010, India. (Roll No. - 13EUCPS608; Enrol. No - 13E2UCPSM1XP608)

Total publications from the thesis are 4 in numbers [42, 45, 47, 48].

Gyanendra

The thesis titled, "Model Order Reduction of ITI Systems using Stability equation and Soft computing Techniques", is under process from Department of Electrical Engg. (Power Electronics & Electrical Drives), Rajasthan Technical University, Kota, 324010, India. (Roll No. - 13EUCPX611; Enrol. No - ...)

Total publications from the thesis are 1 in numbers [44].

# Page on Research Gate

Web page https://www.researchgate.net/profile/Dr\_D\_Sambariya

Jan 20, 2016 - RG Score - 11.48

- Total impact points 9.60
- Total reads 716
- Citations 124

Skills on MATLAB Simulation, Power Systems Simulation, Power Systems, Power Engineerresearch ing, Power System Stability, Electrical Power Engineering, Power Systems Analysis, scholar Control Theory, Power Systems Modelling, Power System Studies, Voltage Regulation, Model Order Reduction, Soft Computing, Electrical Engineering, Power Electronics, Power Quality, Power System Protection, Distributed Generation, Power Generation, Power Converters, Electrical & Electronics Engineering, Renewable Energy Technologies, Transformers, Inverters, Power Transmission, Harmonics, Fuzzy Logic, Fuzzy Logic Control, Fuzzy Systems, Grid Integration, Power System Reliability, Microgrids Optimization, Power Factor Correction

# Page on Google Scholar

Web page https://scholar.google.com/citations?user=82MdwWkAAAAJ&hl=en

Jan 20, 2016 - Citations - 114

- h-index 6
- i10-index 5

## Page on Academia

Web page https://rtu.academia.edu/DhaneshSambariya

Jan 20, 2016 Followers - 55

Total views - 516 Status - top 3 %

# Page on ISI Web of Science

Web Page http://www.researcherid.com/rid/B-1393-2016

Research ID B-1393-2016

# Page on Orcid

Web Page http://orcid.org/0000-0003-0372-1797

Orcid ID 0000-0003-0372-1797

## Reviewer of the Journals

- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2015-0584
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2015-0953
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2015-1209
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2012-0276
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2013-0445
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2013-0739
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2014-0313
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2014-0651
- T & F Jour: Electric Power Components and Systems; Manus. No: UEMP-2014-0806
- IEEE Jour: IEEE Systems Journal; Manus. No: ISJ-RE-15-03999
- IEEE Jour: IEEE Transactions on Fuzzy Systems; Manus. No: TFS-2015-0171
- IEEE Jour: IET Generation, Transmission & Distribution; Manus. No: GTD-2014-1212
- Springer Jour: Journal of The Institution of Engineers (India): Series B; Manus. No: IEIB-

D-15-00166

- Springer Jour: Electrical Engineering; Manus. No: ELEN-D-15-00036
- Springer Jour: International Journal of Fuzzy Systems; Manus. No: IJFS-D-15-00325
  - JEET Jour: Journal of Electrical Engineering & Technology; Manus. No: J-15-03-020
  - JEET Jour: Journal of Electrical Engineering & Technology; Manus. No: J-15-06-029

# Membership of Professional Bodies

IEEE Membership No. is 90666878

### **Publications**

[1] D. K. Sambariya and R. Gupta, "Fuzzy logic based power systems stabilizer for kota thermal power station," in *International Conference on Computers, Controls* 

- and Communication (INCON-CCC-2004), 2004, pp. 307–316. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.2280.5523
- [2] D. K. Sambariya and R. Gupta, "Fuzzy logic based power system stabilizer for multi-machine system," in *Thirteenth, National Power Systems Conference (NPSC-2004)*, 2004, pp. 257–261. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.1412.2007
- [3] D. K. Sambariya, R. Gupta, and A. K. Sharma, "Simulation of fuzzy logic power system stabilizer," in *IEE Sponsored National Conference on Power Engineering Practices & Energy Management*, (PEPEM-2005), 2005, pp. 32–35.
- [4] D. K. Sambariya, R. gupta, O. P. Dudi, and V. Vishnoi, "Fuzzy logic based multi-machine power system stabilizer with different deffuzification methods," in *International Conference On Power, Energy & It Sector, (Peitsicon-2005)*, 2005, pp. 142–146.
- [5] D. K. Sambariya and R. Gupta, "Fuzzy logic based robust multi-machine power system stabilizer," in *International Conference on Computer Applications in Electrical Engineering Recent Advances, (CERA-2005)*, 2005, pp. 436–442.
- [6] D. K. Sambariya, R. Gupta, V. Vishnoi, and M. K. Meena, "Fuzzy logic based power systems stabilizer for single machine with different membership functions," in *National Seminar on Engineering Computational Techniques and their Applications, (ECTTA-2005)*, 2005, pp. 1–6.
- [7] D. K. Sambariya, R. Gupta, and V. Vishnoi, "Robust fuzzy logic based power system stabilizer," in *National Conference on Communication, Control and Bioinformatics, (NCCB 2006)*, 2006, pp. FZ–09 (1–6).
- [8] R. Gupta, D. K. Sambariya, and R. Gunjan, "Fuzzy logic based robust power system stabilizer for multi-machine power system," in *IEEE International Conference* on *Industrial Technology*, *ICIT-2006*, 2006, pp. 1037–1042. [Online]. Available: http://dx.doi.org/10.1109/icit.2006.372299
- [9] D. K. Sambariya, R. Gupta, and A. K. Sharma, "Fuzzy applications to single machine power system stabilizers," *Journal of Theoretical and Applied Information Technology*, vol. 5, no. 3, pp. 317–324, 2009. [Online]. Available: http://www.jatit.org/volumes/research-papers/Vol5No3/9Vol5No3.pdf
- [10] D. K. Sambariya and R. Gupta, "Fuzzy applications in a multi-machine power system stabilizer," *Journal of Electrical Engineering & Technology*, vol. 5, no. 3, pp. 503–510, 2010. [Online]. Available: http://www.jeet.or.kr/ltkpsweb/pub/pubfpfile.aspx?ppseq=100
- [11] D. K. Sambariya, "Power system stabilizer with fuzzy logic for multi-machine system," in *National Conference on Power and Energy Systems, (NCPES-2011)*, 2011, pp. 200–204.
- [12] D. K. Sambariya, "Power system stability improvement by using LQR & SMC technique," in *National Conference on Power and Energy Systems, (NCPES-2011)*, 2011, pp. 44–50.
- [13] D. K. Sambariya and R. Prasad, "Fuzzy PSS for single machine infinite bus power system," in *International Conference on Power Electronics and Energy Systems (PEES-2012), ISBN* : 978-81-920249-8-1; Department of Electrical Engineering, Chitkara University, 2012, pp. 23–27.
- [14] D. K. Sambariya and R. Prasad, "Robust power system stabilizer design for single machine infinite bus system with different membership functions for fuzzy logic controller," in 7th International Conference on Intelligent Systems and Control (ISCO-2013), pp. 13–19. [Online]. Available: http://dx.doi.org/10.1109/ISCO.2013.6481115
- [15] D. K. Sambariya and R. Prasad, "Power system stabilizer design for single machine infinite bus system with different membership functions for fuzzy logic controller,"

- in International Conference on Advances in Technology and Engineering, ICATE-2012 [IEEE-Conference] at Mukesh Patel School of Technology Management & Engineering, Behind Homeopathy College, Bhakti Vedant Swami Marg, JVPD Scheme, Vile Parle West, Mumbai, Maharashtra., 2013, pp. 151–162. [Online]. Available: http://dx.doi.org/10.1109/ICAdTE.2013.6524762
- [16] D. K. Sambariya and R. Prasad, "Power system stabilizer design for multimachine power system using interval type-2 fuzzy logic controller," *International Review of Electrical Engineering (IREE)*, vol. 8, no. 5, pp. 1556–1565, 2013. [Online]. Available: http://dx.doi.org/10.15866/iree.v8i5.2113
- [17] D. K. Sambariya and R. Prasad, "Design of harmony search algorithm based tuned fuzzy logic power system stabilizer," *International Review of Electrical Engineering (IREE)*, vol. 8, no. 5, pp. 1594–1607, 2013. [Online]. Available: http://dx.doi.org/10.15866/iree.v8i5.2117
- [18] D. K. Sambariya and R. Prasad, "Evaluation of interval type-2 fuzzy membership function & robust design of power system stabilizer for smib power system," *Sylwan Journal*, vol. 158, no. 5, pp. 289–307, 2014. [Online]. Available: http://sylwan.ibles.org/archive.php?v=158&i=5
- [19] D. K. Sambariya and R. Prasad, "Robust tuning of power system stabilizer for small signal stability enhancement using metaheuristic bat algorithm," *International Journal of Electrical Power & Energy Systems*, vol. 61, no. 0, pp. 229–238, 2014. [Online]. Available: http://dx.doi.org/10.1016/j.ijepes.2014.03.050
- [20] D. K. Sambariya and R. Prasad, "Small signal stability enhancement by optimally tuned conventional power system stabilizer using bat algorithm," in *International Conference on Advances in Power Generation from Renewable Energy Sources*, 2015, pp. 366–380.
- [21] D. K. Sambariya and R. Prasad, "Evaluation of membership functions in the design of fuzzy logic power system stabilizer," in *International Conference on Advances in Power Generation from Renewable Energy Sources, 'APGRES-2015'*, 2015, pp. 352–365.
- [22] D. K. Sambariya and R. Prasad, "Optimal tuning of fuzzy logic power system stabilizer using harmony search algorithm," *International Journal of Fuzzy Systems*, vol. 17, no. 3, pp. 457–470, 2015. [Online]. Available: http://dx.doi.org/10.1007/s40815-015-0041-4
- [23] D. K. Sambariya, "Power system stabilizer design using compressed rule base of fuzzy logic controller," *Journal of Electrical and Electronic Engineering*, vol. 3, no. 3, pp. 52–64, 2015. [Online]. Available: http://dx.doi.org/10.11648/j.jeee.20150303.16
- [24] D. K. Sambariya and R. Prasad, "Design of robust PID power system stabilizer for multimachine power system using HS algorithm," *American Journal of Electrical and Electronic Engineering*, vol. 3, no. 3, pp. 75–82, 2015. [Online]. Available: http://pubs.sciepub.com/ajeee/3/3/3/
- [25] D. K. Sambariya and R. Prasad, "Design and small signal stability enhancement of power system using interval type-2 fuzzy PSS," *Journal of Intelligent & Fuzzy Systems*, vol. 30, no. 1, pp. 597–612, 2015. [Online]. Available: http://dx.doi.org/10.3233/IFS-151825
- [26] D. K. Sambariya, R. Prasad, and D. Birla, "Design and performance analysis of PID based controller for SMIB power system using firefly algorithm," in *IEEE Proceedings of 2015 RAECS UIET Panjab University Chandigarh*  $21-22^{nd}$  *December 2015*, 2015, pp. 1–8.
- [27] D. K. Sambariya and R. Gupta, "Sliding mode control of continuous stable and unstable systems," in *IEE Sponsored National Conference on Power Engineering Practices & Energy Management, (PEPEM-2005)*, 2005, pp. 217–219. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.2018.4084

- [28] D. K. Sambariya and R. Gupta, "Fast output sampling technique based speed controller for DC motor," in *IEE Sponsored National Conference on Power Engineering Practices & Energy Management, (PEPEM-2005)*, 2005, pp. 95–98. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.1494.1206
- [29] D. K. Sambariya, R. Gupta, and R. Karawasara, "Sliding mode control of discretized continuous system," in *International Conference On Power, Energy & It Sector, (Peitsicon-2005)*, 2005, pp. 147–150. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.4705.3846
- [30] D. K. Sambariya, R. Gupta, and V. Vishnoi, "Design of controller for DC motor speed using periodic output feedback technique," in *National Conference on Exploring the latest Technological Trends, (INNOVATIONS-2005)*, 2005, pp. 135–137. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.1756.2646
- [31] D. K. Sambariya and R. Prasad, "Stable reduction methods of linear dynamic systems in frequency domain," 17<sup>th</sup> National Power Systems Conference (NPSC-2012) at Indian Institute of Technology (BHU), Vranasi, pp. 549–558, 2012.
- [32] D. K. Sambariya and R. Prasad, "Stable reduced model of a single machine infinite bus power system," 17<sup>th</sup> National Power Systems Conference (NPSC-2012) at Indian Institute of Technology (BHU), Vranasi, pp. 541–548, 2012.
- [33] D. K. Sambariya and R. Prasad, "Stability equation method based stable reduced model of single machine infinite bus system with power system stabilizer," in *International Conference on Recent Trends in Electrical and Electronic Communication Engineering (RTEECE-2012), Krishi Sanskriti, Jawahar Lal Nehru University, New Delhi,* 2012, pp. 101–106.
- [34] D. K. Sambariya and R. Prasad, "Stability equation method based stable reduced model of single machine infinite bus system with power system stabilizer," *International Journal of Electronic and Electrical Engineering*, vol. 5, no. 2, pp. 101–106, 2012.
- [35] D. K. Sambariya and R. Prasad, "Routh stability array method based reduced model of single machine infinite bus with power system stabilizer," in *International Conference on Emerging Trends in Electrical, Communication and Information Technologies (ICECIT-2012), ISBN-9789351070504, at Srinivasa Ramanujan Institute of Technology, Rotarypuram (V), B K Samudram (M), Anantapur (Dist). 515701, Andhrapradesh, India., 2012*, pp. 27–34. [Online]. Available: http://dx.doi.org/10.13140/RG.2.1.4041.8325
- [36] D. K. Sambariya and R. Prasad, "Routh approximation based stable reduced model of single machine infinite bus system with power system stabilizer," in DRDO-CSIR Sponsered: IX Control Instrumentation System Conference (CISCON-2012), Department of Instrumentation and Control Engineering, Manipal Institute of Technology (A Constitute Institute of Manipal University), Manipal-576104; ISBN 978-93-82338-26-0 | Âl 2012 Bonfring; CIS-162;, 2012, pp. 85-93. [Online]. Available: http://www.conference.bonfring.org/papers/manipal\_ciscon2012/CIS-162.pdf
- [37] D. K. Sambariya and R. Prasad, "Differentiation method based stable reduced model of single machine infinite bus system with power system stabilizer," *International Journal of Applied Engineering Research*, vol. 7, no. 11, pp. 2116–2120, 2012. [Online]. Available: http://gimt.edu.in/clientFiles/FILE\_REPO/2012/NOV/24/1353741189722/202.pdf.
- [38] D. K. Sambariya and R. Prasad, "Differentiation method based stable reduced model of single machine infinite bus system with power system stabilizer," in 3rd International Conference on Emerging Trends in Engineering and Technology, IETET-2012; Geeta Institute of Management and Technology, Kanipla, Kurukshetra-136131, 2012, pp. 2116–2120.
- [39] D. K. Sambariya and R. Prasad, "Stable reduced model of a single machine infinite bus power system with power system stabilizer," in *International Conference on Advances*

- in Technology and Engineering (ICATE-2013), 2013, pp. 1–10. [Online]. Available: http://dx.doi.org/10.1109/ICAdTE.2013.6524763
- [40] D. K. Sambariya and R. Prasad, "Design of pss for smib system using robust fast output sampling feedback technique," in *IEEE proceedings of 7th International Conference on Intelligent Systems and Control (ISCO), 2013*, 2013, pp. 166–171. [Online]. Available: http://dx.doi.org/10.1109/isco.2013.6481142
- [41] V. Nath and D. K. Sambariya, "Analysis of AGC and AVR for single area and double area power system using fuzzy logic control," *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, vol. 4, no. 7, pp. 6501–6511, 2015. [Online]. Available: http://dx.doi.org/10.15662/ijareeie.2015.0407075
- [42] D. K. Sambariya and H. Manohar, "Model order reduction by integral squared error minimization using bat algorithm," in *IEEE Proceedings of 2015 RAECS UIET Panjab University Chandigarh*  $21-22^{nd}$  *December 2015*, 2015, pp. 1–7.
- [43] D. K. Sambariya and V. Nath, "Load frequency control using fuzzy logic based controller for multi-area power system," *British Journal of Mathematics & Computer Science*, vol. 13, no. 5, pp. 1–19, 2016. [Online]. Available: http://dx.doi.org/10.9734/BJMCS/2016/22899
- [44] D. K. Sambariya and G. Arvind, "High order diminution of LTI system using stability equation method," *British Journal of Mathematics & Computer Science*, vol. 13, no. 5, pp. 1–15, 2016. [Online]. Available: http://dx.doi.org/10.9734/BJMCS/2016/23243
- [45] D. K. Sambariya and H. Manohar, "Preservation of stability for reduced order model of large scale systems using differentiation method," *British Journal of Mathematics & Computer Science*, vol. 13, no. 6, pp. 1–17, 2016. [Online]. Available: http://dx.doi.org/10.9734/BJMCS/2016/23082
- [46] V. Nath and D. K. Sambariya, "Application of NARMA L2 controller for load frequency control of multi-area power system," in *IEEE Proceeding of* 10<sup>th</sup> *International Conference* on *Intelligent Systems and Control (ISCO 2016)*, vol. 2, 2016, pp. 352–358.
- [47] H. Manohar and D. K. Sambariya, "Model order reduction of mimo system using differentiation method," in *IEEE Proceeding of* 10<sup>th</sup> *International Conference on Intelligent Systems and Control (ISCO 2016)*, vol. 2, 2016, pp. 347–351.
- [48] D. K. Sambariya and H. Manohar, "Model order reduction by differentiation equation method using with routh array method," in *IEEE Proceeding of* 10<sup>th</sup> *International Conference on Intelligent Systems and Control (ISCO 2016)*, vol. 2, 2016, pp. 341–346.
- [49] V. Nath and D. K. Sambariya, "Design and performance analysis of adaptive neuro fuzzy controller for load frequency control of multiarea power system," in *IEEE Proceeding of* 10<sup>th</sup> International Conference on Intelligent Systems and Control (ISCO 2016), vol. 2, 2016, pp. 359–365.