SANJAY KUMAR

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Educational Profile

Year	Degree	Institute /university	Modules	Percentage/CGPA
2012-2016	Ph.D	IIT(ISM) DHANBAD	POWER SYSTEM	AWARDED
2007-2009	M.TECH	NIT PATNA	POWER SYSTEM	68.10%
2002-2006	B.TECH	NIT JAMSHEDPUR	ELECTRICAL Engg.	66.10%

GATE Qualified: 97.27 Percentile(AIR 474 -2007)

Project Details

Ph.D Thesis Title: FACTS Devices for the solution of congestion in the transmission lines.

The main objective of my present work is to find the optimal allocation of FACTS devices in the transmission network to minimize the transmission loss and operating cost of the system and also simultaneous increase of power transfer capacity of the transmission network under different loading conditions. There are three main issues that are to be considered for the selection of FACTS devices, its types, its capacity and locations where to be installed. Minimization of transmission loss is a problem of reactive power optimization and can be done by controlling reactive generations of the generators, controlling transformer tap positions and adding shunt capacitors in the weak buses. TCSC's are placed in lines where reactive power flows are very high and SVC's are connected at the receiving end buses of the other lines carrying significant amount of reactive power.

Publications:

International Journals.

1. B. Bhattacharya and **Sanjay Kumar,** "A novel approach for the solution of transmission congestion with multi type FACTS devices" **IET Generation Transmission Distribution**. Vol. 10, Issue 11, pp.2802-2809, 2016.

2. B. Bhattacharya and Sanjay Kumar, "Loadability enhancement with FACTS devices using Gravitational Search Algorithm," International Journal on Electrical Power and Energy Systems, *Elsevier.* vol. 78, pp. 470-479, 2016.

3. B. Bhattacharyya and **Sanjay Kumar**, "Reactive power planning with FACTS devices using gravitational search algorithm," *Ain Shams Engineering Journal, Elsevier,* vol 6, issue 3, pp. 865-871, 2015.

4. B. Bhattacharyya, Vikash Kumar Gupta and **Sanjay Kumar**, "UPFC with Series and Shunt FACTS Controllers for the Economic Operation of a Power System," *Ain Shams Engineering Journal*, *Elsevier*, vol 5, issue 3, pp. 775-787, 2014.

5. Vikash Kumar Gupta, B. Bhattacharyya and **Sanjay Kumar**, "**Enhancement of Power System Loadability with FACTS Devices,"** *Journal of The Institution of Engineers (India): Series B, Springer,* vol. 95, issue 2, pp. 113-120, 2014.

6. **Sanjay Kumar,** B. Bhattacharyya and Vikash Kumar Gupta, "Present and Future Energy Scenario in India," *Journal of The Institution of Engineers (India): Series B, Springer,* vol. 95, issue 3, pp. 247-254, 2014.

7. B. Bhattacharyya, Vikash Kumar Gupta and **Sanjay Kumar**, "Reactive Power Optimization with SVC & TCSC using Genetic Algorithm," *Advance in Electrical and Electronics Engineering* **(AEEE),** vol. 12, issue 1, pp. 1-12, 2014.

8. B. Bhattacharyya, Vikash Kumar Gupta and **Sanjay Kumar**, "Comparative study of GA & DE algorithm for the economic operation of a Power System using FACTS devices," *Archives of Electrical Engineering, Versita,* vol. 64, no. 4, pp. 541-552, 2013.

9. B. Bhattacharya and **Sanjay Kumar,** "Active and reactive load ability improvement by FACTS devices using Gravitational Search Algorithm", communicated in **IETE Journal of research, Taylor & Francis**

In International Conferences.

1. Vikash Kumar Gupta, B. Bhattacharyya and **Sanjay Kumar**, "Fuzzy-DE approach for the optimal placement of FACTS devices to relief Congestion in a power system", CIEC-2014, Kolkata, 31st Jan. – 02 Feb., 2014
2. Vikash Kumar Gupta, B. Bhattacharyya and **Sanjay Kumar**, "Optimal Placement of Series & Shunt FACTS Devices in a Power System using Differential Evolution", *MFIIS-2013*, Kolkata.
3. Vikash Kumar Gupta, B. Bhattacharyya and **Sanjay Kumar**, "Fuzzy Based Evolutionary Algorithm for The Optimal Planning of FACTS Devices in an Interconnected Power System", *IEEE Workshop on Computational Intelligence: Theories, Applications and Future Directions, IIT Kanpur*, July-2013.
4. **Sanjay Kumar,** Vikash Kumar Gupta and B. Bhattacharyya, "Application of GA & DE Algorithm for the placement of FACTS Devices in cost Economic operation of power system", *Presented in SAP-BEATS 2013*, 23-24 Feb.2013.

Trainings:

- ❖ Attended an industrial training TATA MOTOR.
- ❖ Duration-Three weeks.

Computer Skills

Operating Systems	Windows XP/9x/2000.
Application Experties	Matlab, MS Office, C

Strengths

- ➢ Smart & committed working.
- ➢ Strong belief in teamwork.
- ➢ Ability to manage time and stress efficiently.
- ➢ Optimistic thinking

Working Experience

Two-year working experience as an Asst. Prof. (Head of Deptt. EEE, RIT, Koderma)

Personal Details:

- ❖ **Date of Birth** : 05-06-1980
- ❖ **Gender** : Male.
- ❖ **Nationality** : Indian.
- ❖ **Languages Known** : English, Hindi.
- ❖ **Hobby** : Playing cricket & Football
- ❖ **Contact no.** : 09304769508

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References:

1. Dr. Biplab Bhattacharyya
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Indian School of Mines, Dhanbad
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