

Research Publications

Patent

- **A J Mehta, D H Shah, H A Mehta and R D Shah.** Discrete-Time Sliding Mode Controller for Networked Control System with Random Fractional Delay, **Application No. 201721015486, May, 2017, Indian Patent.**
- **D H Shah and D M Patel.** Design of Robust Controller for Multivariable Process with Time Delay Compensation, **Application No. 201921001183, January, 2019, Indian Patent.**

Monograph

- **D H Shah and A J Mehta.** “Discrete-Time Sliding Mode Control for Network Control System” published in the book series “Systems, Control and Decision”, Springer, March 2018.

Book Chapters Authored

- **D H Shah and A J Mehta.** “Discrete-Time Sliding Mode Control for Nonlinear System Adulterated by Network Irregularities”, Mathematics in Engineering Sciences, Taylor and Francis, 2019, pp. 345-362, ISBN No. 9781138577671.
- **D H Shah, D M Patel and A J Mehta.** “Sliding Mode Control Approaches for Robust Control of Quadruple Tank System”, Mathematics in Engineering Sciences, Taylor and Francis, 2019, pp. 327-343, ISBN No. 9781138577671.

Journal Publications (Most relevant to research area)

1. **D H Shah, and D. P. Soni.** “Design of Sliding Mode Control for Structural Vibrations System with Time-Varying Transmission Delays”, submitted to Mechanical System and Signal Processing (under review). **I.F.-5.005 (Indexed in Scopus and Science Citation Index Expanded)**
2. **D H Shah, Keyur Patel, A J Mehta and Andrzej Bartoszewicz.** “Event-Triggered Discrete Higher-Order SMC for Networked Control System having Network Irregularities”, submitted to IEEE Transactions on Industrial Informatics (under revision). **I.F.-7.377 (Indexed in Web of Science, Scopus and Science Citation Index Expanded)**
3. **D H Shah and D M Patel.** “Design of Sliding Mode Control for Quadruple-Tank MIMO Process with Time Delay Compensation”, Journal of Process Control, Elsevier, Vol. 76, pp. 46-61, 2019. **I.F.-3.316 (5-Year I.F.- 3.579) (Indexed in Web of Science, Scopus and Science Citation Index Expanded)**

4. **D H Shah and A J Mehta.** “Discrete- Time Sliding Mode Controller Subject to Real-Time Fractional Delays and Packet Losses for Networked Control System”. International Journal of Control, Automation and Systems (IJCAS), Springer Vol. 15, No. 6, pp. 2690-2703, 2017. **I.F.-2.16 (5-Year I.F.- 1.862) (Indexed in Scopus and Science Citation Index Expanded)**
5. **D H Shah and A J Mehta.** “Fractional Delay Compensation Using Discrete-Time SMC for Networked Control System”. Digital Communication Networks, Elsevier, Vol. 3, No. 2, pp. 385-392, 2017. **I.F.-1.5 & SNIP: 2.6 (Indexed in Scopus and Science Citation Index Expanded)**

Major International Conferences: (All papers are indexed in Scopus)

1. **D H Shah, D S Panchal and D P Soni.** “Design of Sliding Mode Control for LNG Storage Tank System”, Recent Advances in Communication Infrastructure, Proc. of International Conference on Power Control and Communication Infrastructure 2019, Springer Nature Singapore.
2. **D H Shah, V. Upadhyay N. Shah.** “Design and Comparison of PID controller with MPPT for Photovoltaic System”, IEEE 3rd International Conference on Intelligent Computing and Control Systems, Coimbatore, 15th-17th May, 2019.
3. **D H Shah, H Modi, H Mehta and A J Mehta.** “Microgrid Control using Distributed SMC with Compensation of Network Irregularities”. IEEE 2nd International Conference on Energy, Power and Environment, Shilong, Meghalaya, June. 2018, pp. 1-6. (ISBN: 978-1-5386-4769-1)
4. **D H Shah, J Vala, K Kadia, M Patel, M Patel and P Viradiya,** “State Feedback Control for Cruise Missile System”, IEEE International Conference on New Trends in Engineering and Technology, Madras, Sept., 2018. (ISBN: 978-1-5386-5630-3)
5. **D H Shah and A J Mehta.** “Discrete-Time Sliding Mode Control Using Thiran’s Delay Approximation for Networked Control System”. 43rd Annual Conference of the IEEE Industrial Electronics Society, (IECON- 2017), Beijing, China, Nov. 2017, pp. 3025-3031. (ISBN: 978-1-5386-1127-2)
6. **D H Shah and A J Mehta.** “Multirate Output Feedback Based Non-Switching Discrete- Time Sliding Mode Control for Fractional Delay Compensation in NCSs”. International Conference on Industrial Technology (ICIT- 2017), organized under IEEE Industrial Electronics Society, Toronto, Canada, March 2017, pp. 848-853. (ISBN- 978-1-5090-5319-3)
7. **D H Shah and A J Mehta.** “Output Feedback Discrete Time Networked Sliding Mode Control”, International Workshop on Recent Advances in Sliding Modes (RASM-2015), organized under IEEE Industrial Electronics Society, Istanbul, Turkey, April 2015, pp. 1-6. (ISBN- 978-1-4799-8947-8)
8. **D H Shah and A J Mehta.** “Robust Controller Design for Networked Control System”. International Conference on Computer, Communication and Control Technology (I4CT), IEEE Computer Society, LangKawi, Malaysia, 2014, pp. 385-390. (ISBN- 978-1-4799-4555-9)