

## Shambhu N. Sharma, PhD

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National Institute of Technology  
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### Research interest

Broadly, I am interested in mathematical control theory. In addition to this, I am also interested in stochastic differential equations and linear algebra. I w'd be happy to discuss open problems in noisy dynamical systems.

### Degrees

B.E. Electrical Engineering, Govt. Engineering College Rewa, M.P., India

M.Tech. Control Systems (Electrical Engineering), Institute of Technology, Banaras Hindu University, India

Ph.D. Volterra and stochastic system theory, the University of Delhi, Delhi, India

### Regular Job experience (permanent position)

(i) *NSIT Delhi (An Autonomous Institution of Govt. of NCT of Delhi)*

Lecturer (Instrumentation and Control Engineering Division)  
July 2000-March 2009

(ii) *NIT Surat (Sardar Vallabhbhai National Institute of Technology, Surat ,Gujarat)*

Associate Professor (Electrical Engineering Department)  
April 2009 till date

### Selected Journal publications

(1) S. N. Sharma, H. Parthasarathy and J.R.P. Gupta

Third-order approximate Kushner filter for a non-linear dynamical system, *International Journal of Control*, 79(9), pp. 1096-1106, 2006. (doi: 10.1080/00207170600800124).

(2) Shambhu N. Sharma and H. Parthasarathy

Dynamics of a stochastically perturbed two-body problem, *Pro. R. Soc. A*, The Royal Society: London, 463, pp.979-1003, 2007. (doi: 10.1080/rspa.2006.1801).

(3) Shambhu N. Sharma, and H. Parthasarathy

A two-body continuous-discrete filter, *Non-linear Dynamics* (An international Journal for dynamics and control), Springer: the Netherlands, 51(nos. 1-2), 155-170, 2008 (doi: 10.1007/s11071-007-9199-0).

(4) Shambhu N. Sharma, and H. Parthasarathy

Volterra series arising from the discrete Schrodinger wave equation in Hilbert space, *Applied Mathematics and Computation* (an Elsevier Journal), 196, pp. 563-569, 2008. (doi: 10.1016/j.amc.2007.06.030)

(5) Shambhu N. Sharma

Non-linear filtering for a dust-perturbed two-body model, *Non-linear Dynamics* (An international Journal for dynamics and control), Springer: the Netherlands, 55, pp.221-238, 2009 (doi: 10.1007/s11071-008-9358-y).

(6) Shambhu N. Sharma

A Kolmogorov-Fokker-Planck approach for a stochastic Duffing-van der Pol system, *Differential Equations and Dynamical Systems* (An International Journal for Theory, Application, Computer Simulations), 16(4), pp. 351-377, October, 2008. DOI: 10.1007/s12591-008-0019-x.

## Others

(1) The paper published in the Royal Society of London considered for the *International press release* as well as chosen by the [Smithsonian Astrophysical Observatory](#) as its collection of papers.

(vi) A review of the paper, *International Journal of Control*, 79(9), pp. 1096-1106, 2006 is added to the database of the Math Reviews, MR 224 2909(2007f: 93113) 93 E 11(60H 10)