

Vabilo na predavanje prof. Sharme

Prispeval Božo Bratina

Ponedeljek, 28 Maj 2018 08:48 - Zadnjič posodobljeno Ponedeljek, 28 Maj 2018 08:56

Vabilo na predavanje prof. Sharme!

Člane DAS vljudno vabimo na predavanje prof. Sharme, ki bo v torek, 29.05.2018 ob 12:30 na IJS.

Predavanje v organizaciji kolegov iz IJS bo potekalo na Odseku za sisteme in vodenje, E2.

Več o predavanju v spodnjem tekstu.

Lep pozdrav,

Božo Bratina

Title of the talk: On the Sharma-Parthasarathy stochastic two-body problem

Deterministic two-body problem is a longstanding and widely studied problem in dynamical systems. However, the influence of stochastic disturbances on system trajectory has been largely ignored. The source of disturbances is in a range of astronomical phenomena like interstellar dust particles. The aim of this talk is to revisit the classical two-body problem from the stochastic perspective. In this talk, I will review some appealing concepts starting from the and ending up with the Fokker-Planck equation. The latter is the cornerstone formalism in stochastic system analysis. Importantly, the Fokker-Planck equation implies the Markovity in the state vector and provides link to the filtering problems in control. Though I will discuss a specific case study, I will argue the applicability of the the approach to a wider class of systems arising from practical problems.

A brief resume of S N Sharma

S N Sharma received his Bachelor of Engineering from Government College of Engineering Rewa and Master of Technology degree in Control Systems from Institute of Technology, Banaras Hindu University, India and the PhD degree from University of Delhi, Delhi, India. All

qualifications were earned in Electrical Engineering with specializations in Control Systems. Currently, he is working as an Associate Professor in the Electrical Engineering Department of National Institute of Technology, Surat, India.

His notable research visits include TIFR Bangalore Centre, India, Department of *Physical and Information Sciences*, Osaka University, Japan, Electrical Engineering Department of University of Saskatchewan, Canada. He pursues his research in 'stochastic control' with emphasis in stochastic processes, dynamical systems, non-linear filtering as well as their applications to stochastic methods in satellite dynamics, circuits and systems and radio astronomy. His research key words are Fokker-Planck equations, non-linear filtering, stochastic control problems, Hamilton-Jacobi-Bellman equations, Riccati equations, Markov processes. Currently, he is working with his PhD students on multivariable processes, relative gain arrays, IMC controller, Carleman linearizations and IMC Volterra controllers.

His results are chiefly published in *Automatica*, *Journal of the Franklin Institute*, *International Journal of Control*, *ASME Transactions*, *Journal of Computational and Non-linear Dynamics*, *Transactions of Institute of Systems, Control and Information Engineers*, *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, *Circuit, Systems and Signal Processing*, *Non-linear Dynamics*, *Differential Equations and Dynamical Systems*

He is known for *The Sharma-Parthasarathy stochastic two-body problem* in world scientific community that bears his name. He has finite collaborative research distance with pioneers, i.e. Paul Erdos, Norbert Wiener and M Vidyasagar.

He is actively contributing to refereeing of Journals, including the Royal Society Journals, session chairing of prestigious conferences of United States, Europe and Japan based on the formal invitations from the Editorial boards.