

Seminar in Nonlinear Systems

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Network Traffic Modeling and Engineering Using Stable and Fractal Processes

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3:30 pm

Morton 201

Abstract: One key property of modern network traffic is the presence of fractal behavior or self-similarity, *i.e.*, the fact that the data “looks statistically similar” on all time-scales, as well as heavy-tailness *i.e.*, non-Gaussianity. Although the above features have serious implications for analysis, design, and control of data networks, they are inadequately described by classical traffic models such as Markov, Poisson or Gaussian models.

The talk discusses a family of self-similar and stable (heavy-tailed) processes for modeling and engineering of data networks traffic, as well as several results applicable to queuing theory. The main objective of this research is to improve the performance of high-speed networks using new approaches and techniques.

Refreshments at 3:15pm