



Master Thesis Defense

Speaker: Mark Goldsmith

Supervisor: Dr. Chvatal

Examining Committee: Drs. Grogono, Mudur and Dr. Shiri (Chair)

Title: The Maximal Lyapunov Exponent of a Time Series

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Time: 10:00 am.

Place: EV3.101

ABSTRACT

Techniques from dynamical systems have been applied to the problem of predicting epileptic seizures since the early 90's. In particular, the computation of Lyapunov exponents from a series of electrical brain activity has been claimed to have great success. We survey the relevant topics from pure dynamical systems theory and explain how Wolf et al. adapted these ideas to the practical situation of trying to extract information from a time series. In doing so, we consider instances of time series where we may visually extract properties of the maximal Lyapunov exponent in an attempt to cultivate some intuition for more complicated and realistic situations.