Positive Feedback, Relaxation Oscillators and Chaotic Circuits

Lecture 0 - Introduction

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Goals of this lecture series; Pre-requisites and References for these lectures; Logistics

I. Goals of this talk
1. Understand basic ideas behind Schmitt trigger and positive feedback (Day 1)
2. Use these ideas to implement oscillators (Day 2)
3. Use oscillators to implement chaotic circuits (Day 3)

II. Pre-requisites
1. Basic DC circuit analysis and math skills
2. Interest in EE
3. Ability to think

III. References (lecture precedence)
1. **Hysteresis in Electronic Circuits – A Circuit Theorist's Perspective.** Kennedy, M. P. and Chua, L. O**.** International Journal of Circuit Theory and Applications. Volume 19, Issue 5, pages 471–515, September/October 1991.
2. **A Framework for Teaching Nonlinear Operational Amplifier Circuits to Junior Undergraduate Electrical Engineering Students.** Muthuswamy, Bharathwaj and Mossbrucker, Joerg. Proceedings of the ASEE, June 2010.
3. Use Sprott book for chaos in coupled relaxation oscillators - pp. 239-240

IV. Logistics :
1. Please stop me at ANY time for questions. I am also available via email : muthuswamy@msoe.edu
2. There will be one problem for you to think about and solve at the end of every lecture.

Questions?