Hands_on session-F (Room # 404)
on
Dynamics of Nonlinear Electronic Circuits

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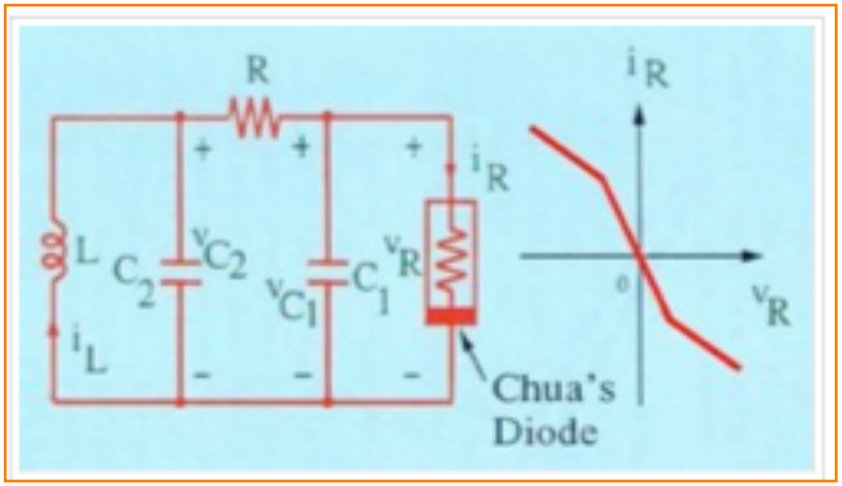
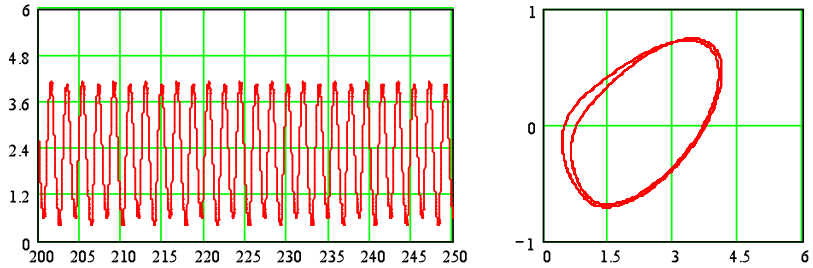
Chua circuit



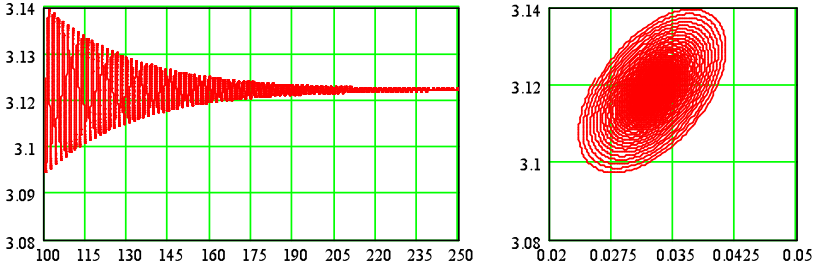
- RLC circuit
- Chua diode
- **PSPICE** simulation
- Build a circuit

One of the simplest nonlinear circuits that can demonstrate a host of nonlinear phenomena – such as limit cycle oscillations, period doubling sequence, chaos, scroll attractors etc.

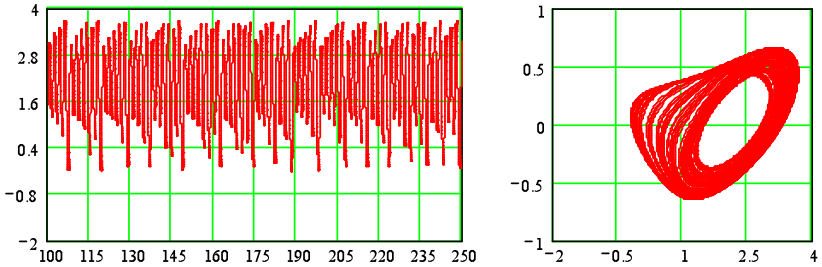
Chua circuit output



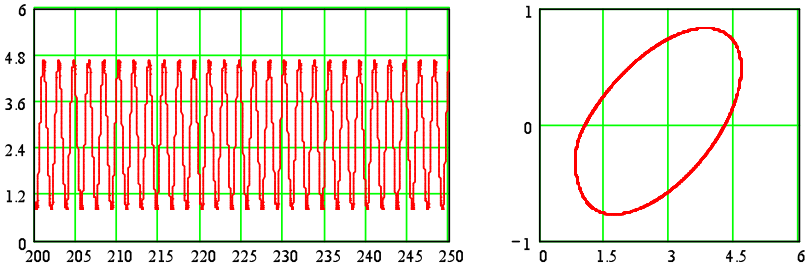
R_1=1740 Ω



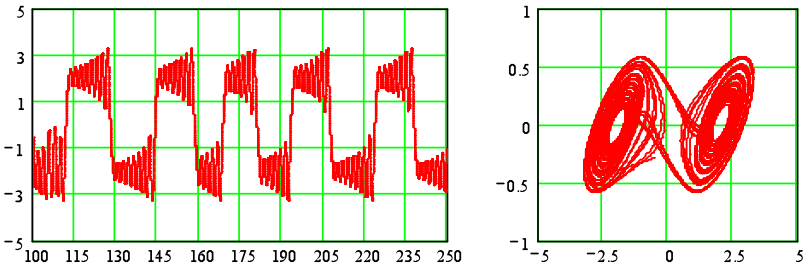
R_1=1900 Ω



R_1=1680 Ω



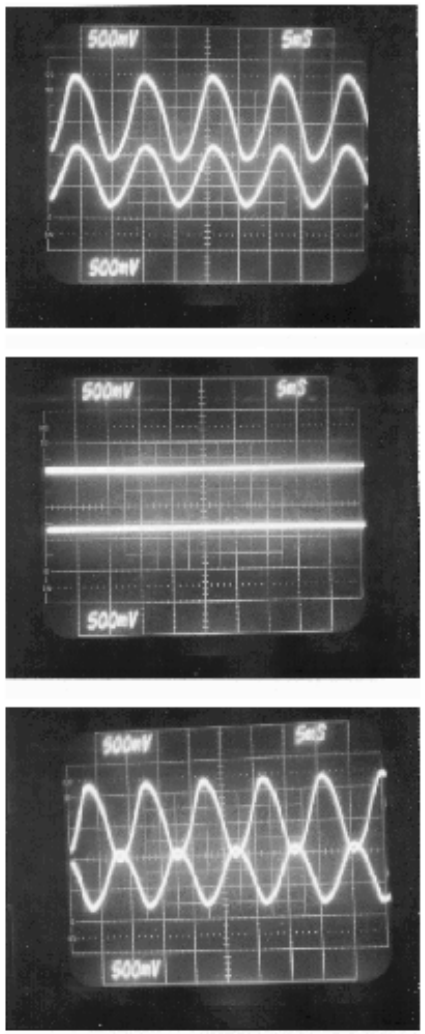
R_1=1820 Ω



R_1=1620 Ω

Coupled oscillators

- What happens when two oscillators are coupled to each other ?



Collective dynamics of many oscillators?

- ***Synchrony***
- ***Pattern formation***
- ***Paradigm for many applications***