

# Various differential equations with hysteresis

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The easiest way to explain hysteresis is thermocontrol in the room. If we want to have a temperature of 20C, the air conditioner works as follows. If the temperature is higher than 21C the air conditioner is turned on, if temperature below 19C it is turned off, between 19 and 21 it does not switch. I consider two problems:

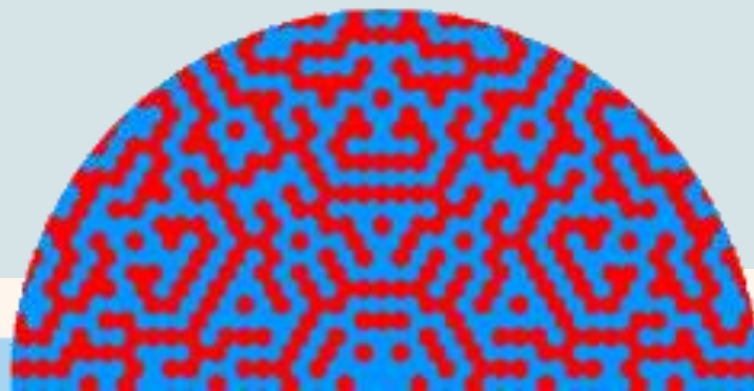
1. Thermocontrol by hysteresis. It is a slight generalization of the example in the first paragraph. We are interested in periodic regimes.
2. We consider parabolic PDE with hysteresis. An example is the growth of bacteria in a Petri plate. In that case the profile of hysteresis could form a very beautiful picture in the space.

The goal of the talk is to show the beauty of the world of hysteresis and formulate several topics which could be interesting as semester / master / Phd projects.

**Dia:** 21/11

**Hora:** 17h30

**Sala:** L856



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