A brief introduction to the international Workshop on Robust LPV Control Techniques & Anti-Windup Design

Clément Roos & Jean-Marc Biannic

http://w3.onera.fr/smac

ONERA Toulouse, April 17, 2018.
Why this workshop?

- A quick search on LPV, saturation, constrained or anti-windup control keywords through last CDC, ACC or IFAC WC clearly reveals (with hundreds of references found) that the topic of our workshop today is still quite relevant and that many open problems remain to be solved.

- From a theoretical viewpoint, there are strong connections between LPV and saturated control which have already been highlighted in many papers from the 1990’s.

- In the specific context of aerospace control applications, constrained LPV systems play a keyrole. Being able to design controllers for such a class of systems solves many problems in our field.

and many other reasons...
Morning: Saturations & Anti-Windup

- 09:30-10:15 – Static anti-windup design for discrete-time large scale saturated synchrotron systems. (Isabelle Queinnec & Sophie Tarbouriech)
- 10:15-11:00 – Stability analysis of systems with anti-windup compensators (Matthew Turner)
- 11:00-11:30 – Coffee break
- 11:30-12:15 – Static anti-windup design for synchronous machines (Andrea Beciu & Giorgio Valmorbid)
- 12:15-13:00 – Saturated control for infinite-dimensional systems (Christophe Prieur)
**Program (2/2)**

**Lunch break**

**Afternoon: LPV/LTV Systems & Robust Control**

- **14:30-15:15** – Towards nonlinear tracking and rejection using LPV control (*Gérard Scorletti*)
- **15:15-16:00** – Finite horizon robustness analysis of LTV systems using IQCs (*Peter Seiler*)
- **16:00-16:45** – Advanced robust control design for the VEGA launch vehicle (*Andrés Marcos*)