CENTRO DE INVESTIGACIÓN Y DE ESTUDIOS AVANZADOS DEL IPN

El ***Departamento de Control Automático***

invita cordialmente a su

Seminario Departamental

Stability analysis of linear systems under asynchronous samplings

Dr. Alexandre Seuret

GIPSA-lab,
Instituto Nacional Politécnico de Grenoble, Francia

Martes 16 de Noviembre, 2010, a las 11:00 horas,
Salón de Usos Múltiples, Depto. de Control Automático (Planta Baja),
CINVESTAV-IPN, Unidad Zacatenco, D.F.

Abstract: In the last decades, a large attention has been taken to Networked Control Systems. In such applications, a heavy temporary load of computation in a processor or a lossy communication link can corrupt the sampling period of a certain controller. On the other side, the sampling period can be scheduled in the design in order to avoid this load. In both cases, the variations of the sampling period will affect the stability properties of such systems. It is thus an important issue to develop robust stability conditions with respect to the variations of sampling period. A novel approach to assess the stability of linear systems with sampled-data inputs is proposed here to cope with uncertainties both in the model parameters and in the interval between two successive sampling instants. Some academic examples and an application to second order consensus algorithm show the efficiency of the method.

Alexandre Seuret obtained his PhD from LAGIS (CNRS) /École Centrale de Lille, France (Stability of time-delay systems: applications to the networked control, 2006), and realized a Post-doc stay (2006-2007) at the University of Leicester, United Kingdom. Actually he is with the GIPSA-lab, INP, Grenoble, France.