It is with great pleasure that I would like to announce the following two talks by Prof. Per-Olof Gutman on July 13th and 14th 2006. Please consult these pages for updated information. Regards, Giovanni Indiveri.

Annuncio di Seminario

Behaviour design and test for autonomous underwater vehicles

Prof. Per-Olof Gutman
Aula Seminari del DII
Giovedì 13 Luglio 2006
ore 15.00

Abstract:
QFT is a control systems design method in the frequency domain where LTI controllers are designed to meet the closed loop specifications when the controlled object (the plant) is described by a set of transfer functions. The method is based on classical Bode-Nichols design. The central idea is to replace the simultaneous design for all plant cases, with the constrained design for the nominal plant case, whereby the open loop compensated nominal frequency function must satisfy frequency depended constraints, so called Horowitz-Sidi bounds. In this talk we will review the six steps of QFT: Definition of plant uncertainty, definition of specifications, the computation of the Horowitz-Sidi bounds, the feedback compensator design, the pre-filter design, and simulations. Some theoretical issues, and some extensions will also be reviewed.

Controlling mechanical systems with backlash

Prof. Per-Olof Gutman
Aula Seminari del DII
Venerdì 14 Luglio 2006
ore 11.00

Abstract:
Backlash is one of the most important non-linearities that limit the performance of speed and position control in industrial, robotics, automotive, automation and other applications. The control of systems with backlash has been the subject of study since the 1940s. Surprisingly few control innovations have been presented since the early path breaking papers that introduced the describing function analysis of systems with

backlash. Promising developments are however taking place using adaptive and non-linear control strategies.

About the Speaker:

Per-Olof Gutman was born in HLoganLas, Sweden on May 21, 1949. He received the civ. ing. degree in Engineering Physics in 1973, the Ph.D. degree in automatic control, and the title of docent in automatic control in 1988, all from the Lund Institute of Technology, Lund, Sweden. As a Fulbright grant recipient, he received the M.S.E. degree in 1977 from the University of California, Los Angeles. He taught mathematics in Tanzania, 1973–1975. From 1983–1984 he held a post-doctoral position with the Faculty of Electrical Engineering, Technion—Israel Institute of Technology, Haifa, Israel. From 1984–1990 he was a scientist with the Control Systems Section, El-Op Electro-Optics Industries, Rehovot, Israel, where he designed high precision electro-optical and electro-mechanical control systems. Since 1990 he at the Technion, Haifa, where he now holds the position of Associate Professor in the Faculty of Civil and Environmental Engineering. He has spent several periods as a guest researcher at the Division of Optimization and Systems Theory, Royal Institute of Technology, Stockholm, Sweden, and a sabbatical year (1995–1996) at LAG, INPG, Grenoble, France. The current academic year (2005-2006) he is at GRACE, Dip. di Ingegneria, Univ. Sannio, Benevento, Italy. His research interest include robust and adaptive control, control of non-linear systems, computer aided design and control and modeling of agricultural systems.

For any further information regarding these talks please contact the organizer, Giovanni Indiveri
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