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STABILITY OF INTERCONNECTED UNCERTAIN DELAY SYSTEMS: A CONVERSE LYAPUNOV APPROACH

Abstract: This talk is interested by the asymptotic stability of interconnected uncertain delay systems. First, a collection of converse Lyapunov-Krasovskii theorems for uncertain linear delay systems, recently developed in the literature, is presented. The originality of these theorems resides in the weakly-degenerate conditions required on the Lyapunov-Krasovskii functionals. Then, thanks to these theorems, sufficient conditions for stability of interconnected uncertain linear delay systems are presented.

Ihab Haidar was born in Beirut, Lebanon, in 1983. He received the Master's degree in mathematics from the University of Aix-Marseille 1, France, in 2008 and the Ph.D degree from the University of Montpellier 2, France, in 2011. Since then he has been post-doc in different places (Laboratoire des Signaux et Systèmes, Institut de Mathématiques de Jussieu, Laboratoire QUARTZ-ENSEA). His research interests include control theory, time delay systems, theoretical neuroscience and systems biology.

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