Findings from UTBM Broaden Understanding of Control and Systems Engineering

By a News Reporter-Staff News Editor at Journal of Engineering -- New research on Control and Systems Engineering is the subject of a report. According to news reporting from Belfort, France, by VerticalNews journalists, research stated, "This paper shows the similarity between transportation networks and thermodynamic systems. In particular, by regarding the vehicles as the energy stored in the system, it is demonstrated that transportation systems can have a similar notion of entropy."

The news correspondents obtained a quote from the research from **UTBM**, "This transportation entropy is the measure of disorder and it is not only a suitable notion for evaluating the system performances, but also very useful for the control issue. With this in mind, by using dissipativity approach and choosing the entropy as storage function, a traffic signal control strategy is presented by means of Linear Matrix Inequality (LMI). This generation of dissipativity decreases the disorder and consequently renders the system better organized."

According to the news reporters, the research concluded: "Finally, a four-intersection system is studied in order to illustrate the performance of the results."

For more information on this research see: Modeling and entropy based control of urban transportation network. *Control Engineering Practice*, 2013;21(10):1369-1376. *Control Engineering Practice* can be contacted at: Pergamon-Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England. (Elsevier - www.elsevier.com; Control Engineering Practice - www.elsevier.com/wps/product/cws_home/123)

Our news journalists report that additional information may be obtained by contacting H.D. Zhou, **UTBM**, Lab Syst & Transports SeT, F-90010 Belfort, France. Additional authors for this research include R. Bouyekhf and A. El Moudni.

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