Paths to synchronization

Andrea Arlette España*[1,2], Edgardo Ugalde[2], and Xavier Leoncini[1]

[1]Centre de Physique Théorique - UMR 7332 (CPT) – Aix Marseille Université : UMR7332 – Centre de Physique ThéoriqueCampus de Luminy, Case 907163 Avenue de Luminy13288 Marseille cedex 9, France, France

[2]Instituto de Fisica [Mexico] (UASLP) – Instituto de Física, Av. Manuel Nava 6, Zona Universitaria, 78290 San Luis Potosí, SLP, México., Mexico

Abstract

This work shows a new approach to the study of dynamic systems that act on a graph $ {G} = (V, E) $ and that synchronize. As a first example, we take a simple linear system, known as the Laplacian associated with the adjacency matrix of ${G}$ the ODE on ${R}ˆ{—V—}$ ${\frac{d}{dt}x=L_{G}(x),$where$|V|=n$andL_{G}istheLaplacianmatrixoftheadjacencymatrixof${G}$.Whichcanalsobewrittenas:$\frac{d}{dt}x_k=\sum$

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*Speaker