

CEA - Saclay 91191 Gif-sur-yvette Cedex
Service de Physique de l'Etat Condensé
SÉMINAIRE

Mercredi 27 janvier 11h15

Orme des Merisiers SPEC Salle Itzykson, Bât.774

Google matrix, delocalization and Ulam networks

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We study the spectral properties of the Google matrix generated by the World Wide Web and coarse-grained Perron-Frobenius operators of dynamical maps. The finite size matrix approximant of such operators is constructed by the Ulam method. This method applied to simple dynamical models creates the directed Ulam networks with approximate scale-free scaling and characteristics being rather similar to those of the WWW. The simple dynamical attractors play here the role of popular web sites with a strong concentration of PageRank. A variation of the Google parameter or other parameters of the dynamical map can drive the PageRank of the Google matrix to a delocalized phase with a strange attractor where the Google search becomes inefficient. Applications to other directed networks will be also discussed.

Un café sera servi à 11h00.

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