

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Dynamics on territorial networks: planning productive regional districts ALESSANDRO CHESSA, University of Cagliari (Italy), MARC BARTHELEMY, CEA (France), MICHELE CAMPAGNA, SIMONE CASCHILI, University of Cagliari (Italy), ANDREA DE MONTIS, University of Sassari (Italy), ALESSANDRO VESPIGNANI, Indiana University (USA) — We study the patterns of the communities of workers and students in the Italian insular regions, by applying grouping methodologies based on the characterization of the commuter's movements as a complex weighted network. In order to get the community structure we apply an algorithm based on the maximization of the weighted modularity that allows us to detect productive, geographically located, basins at different scales and composed by towns and their territories showing a certain degree of similarity. We confront these resulting distributions of communities with relevant historical and provincial boundaries, investigate on their discrepancies and correspondences, and propose possible perspectives for local policy making and planning. The main result of this study is that the emerging community structure revealed by the network grouping algorithm matches with the actual administrative boundaries.

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Date submitted: 27 Nov 2009

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