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**Complex networks analysis of commuting:
Recent advances and a research agenda.**

Andrea De Montis^{(1) (4) *}, Alessandro Chessa^{(2) (4)}, Michele Campagna⁽³⁾,
Simone Caschili⁽³⁾, Giancarlo Deplano⁽³⁾

⁽¹⁾ *Dipartimento di Ingegneria del Territorio, Sezione Costruzioni e Infrastrutture,
Università degli Studi di Sassari, via De Nicola, Sassari 07100 - Italy*

⁽²⁾ *Dipartimento di Fisica, SLACS CNR-INFM, Università degli Studi di Cagliari,
Complesso Universitario di Monserrato, Monserrato 09042 - Italy*

⁽³⁾ *Dipartimento di Ingegneria del Territorio, Università degli Studi di
Cagliari, Piazza d'Armi 16, Cagliari 09123 - Italy*

⁽⁴⁾ *Linkalab, Complex Systems Computational Laboratory, 09100 Cagliari,
Sardegna (Italy)*

Abstract

The emerging new Science of Networks is providing an elegant paradigm for the characterization of the broad area of Complex Systems. New research perspectives have been opened in the study of many real phenomena and processes, and recently fields like urban, regional, and environmental sciences have gained new insights from the tools provided by Network Science. The complex networks analysis becomes a useful framework in these fields to disentangle problems of a complex and unpredictable nature.

This paper presents a research agenda on a number of operative tools borrowed from complex network analysis for regional studies: the comparative analysis of commuting systems, the investigation on the influence of spatial properties on complex networks, the detection of communities in commuting systems and the integration between network analysis and geographical information systems.

Keywords: complex network analysis, commuting, weighted networks, spatial analysis, regional studies, Geographic Information Systems

* Corresponding author.
E-mail address: andreadm@uniss.it