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## DEFINING DENSITIES FOR URBAN RESIDENTIAL TEXTURE, THROUGH LAND USE CLASSIFICATION, FROM LANDSAT TM IMAGERY: CASE STUDY OF SPANISH MEDITERRANEAN COAST

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**Abstract.** In the recent epoch, there has been considerable debate about the urban development along the European Mediterranean area, also undertaken by the European Authorities, and in particular regarding the role of spatial planning in order to improve sustainable trends of land use. Great transformations along the Spanish Mediterranean coast have generated considerable changes in the traditional structure of the landscape, far from the typical model of Mediterranean cities, and the rapidity of these modern dynamics has been a significant impact on the spatial patterns, also associated with the expansion of urban connections through the whole territory. The increase of large peri-urban areas, sprawled on the territory, and caused by uncontrolled, uncoordinated and unplanned growth, inevitably has brought the cancellation of clearly identifiable boundaries between the city and the rural areas. Spatial analysis, within quantitative geography and linked to the emerging field of regional science, represents a synthesis of urban and regional economics that is consistent with the complex sciences which dominate the simulation of urban form and functions. Most urban models deal with the city in terms of the location of its economic and demographic activities, but there is also a move to link such models to urban morphologies (Batty 2008). According with these concepts, the investigation, also supported by the use of technologies such as remote sensing and GIS, aims to complement the spatial analysis of regional development dynamics by classifying urban structures and quantifying some of main characteristics based on morphological features.

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