



## **Detecting recent spatial changes in the urban heat island of a medium-sized city due to the increasing human activity**

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We attempt to assess the urban heat island (UHI) changes in a medium-sized city due to its recent considerably increase in urban extension and population. We apply the study to the city of Vic, located in northeastern Iberian Peninsula, which has over 40.000 inhabitants. The cold half of the year (October to March) is considered to compare the data measured in 2001/2002 with those ones in 2006/2007. Actually, Vic's population has increased almost 30% during these last five years. We applied the method of the urban transects using a digital thermohygrometric probe covering almost all the city and its outskirts. The main results show no significant variations in mean intensity of the UHI despite of the urban surface expansion. Nevertheless, the maximum intensity and the UHI spatial shape have experienced some important changes: the UHI core has enlarged due to the increasing human impact concerning industrial activities. This fact might lead in the nearest future to such a potential energy saving on housing heating in midwinter over a very extensive area of the city.