



Mathematical modelling of the thermal behaviour of courtyards and application to the energy efficiency of buildings

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ABSTRACT

The main objective of this talk is to show the influence of the design of the courtyards in the energy efficiency of buildings. We study the thermal behaviour of a courtyard in terms of the ratio of its characteristic dimensions and the solar radiation. Comparison with experimental data will be also presented. These simulations depend on a high number of physical and geometrical parameters, and consequently they involve a huge amount of computational efforts. We are using reduced order modelling to deal with this challenge. Some example will be finally also presented.