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Energy efficient office building concept for Latvian climate

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ABSTRACT

The aim of the paper is to develop building concept for three storey office building using architectural elements of passive cooling. In order to achieve that it is planned to define three basic elements of the building concept – shape of building, sun movement and sustainability of the building. These parameters will serve as corner stones also further in development of building concept. In addition not only passive cooling elements are considered during concept elaboration process but also passive building basic principles which include building location, window placement on facades, room alignment, building constructions and high comfort level. Dynamic simulation software IESVE is used in order to perform required calculations, and after analyzing obtained results to make conclusions and relevant improvements, in that way providing most beneficial result.

Keywords: passive heating and cooling, simulation, office building, microclimate