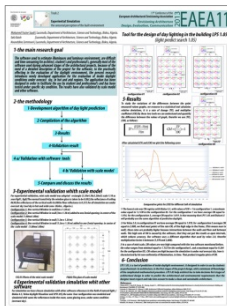




## Tool for the design of day lighting in the building (LPS 1.05)

Saadi, Mohamed Yacine<sup>1</sup> Daich, Safa<sup>1</sup> Zemmouri, Noureddine<sup>1</sup>

Keywords: natural lighting prediction; simulation; day light factor DLF



**Abstract** Most software developed to predict the amount natural light are effective in advanced stages architectural project and are therefore almost unused in the initial stages of the design architectural. The architects conceptual are obliged to reply on big numbers of parameters that are combined. The complex approach firstly in a sketch period, do that generally, there conceptual lay certain indicator in relations to the others, the original kinds of the natural lighting and those that linked with this concept are not frequently taken in conception. In the scientific details' in the sketch period. This lead in architectural productions are generally lacking in the quality and luminous atmosphere inside building.

The objective of our research is development of the software (LPS 1.05), a simple and rapid use which allows the prediction of the natural light and luminous atmosphere and the electricity consummation inside the premises, (LPS 1.05), is software to assist architects in the design space naturally light from the early stages of design. It allows introducing a discussion of the relationship between Design variables affecting the light and space architecture with the various stakeholders in the process of architectural design. On the other hand, the software can be used to teaching by graduate students physical environments and luminous atmosphere. (LPS 1.05) is rapid in its application and use. It is also a fundamental tool in the scientific introduction and precise the concept of the natural lighting during the architectural conception. To validate the results obtained under (LPS 1.05), we have used before two types of experimental validations, the first is the results appear (LPS 1.05) with results obtained in a model (model scale 1/10) with deferent configurations, the second type is the results appear (LPS 1.05) with the results of computer simulations with other software references in the field of natural light (Dialux 4.5 and Velux Daylight Visualizer), and before we had very good results, with co-editions multiplication between 0.04 and 0.09 depending on the configurations.

1. Lacomofa, Department of Architecture, Science and Technology, Biskra, Algeria