

Validation of a Glass-Air-Wall heat transfer model with experimental data.

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An experiment with a representative cube prototype of 60 cm internal size was carried out at weather conditions. The prototype has five properly insulated faces and the other one with single glass. The internal temperatures of this cube at shade are registered by dataloggers. A one dimensional mathematical model using the method of finite differences is developed for the evolution of these internal temperatures. Conduction, convection and radiation phenomena are taken into consideration. Orientation and real data weather conditions are taken into account in the calculations. The registered experimental data obtained are used for the validation of the Glass-Air-Wall heat transfer model.

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