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USING MATLAB-SIMULINK ENVIRONMENT FOR AN AGRICULTURAL GREENHOUSE

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ABSTRACT

In this paper we used matlab program to present a dynamic model of an agricultural greenhouse in order to predict the air temperature and the relative humidity. It describes the transfer of heat and water vapor inside the greenhouse during four days in winter. By using Matlab-Simulink environment the results showed that the temperature and the humidity of the internal air vary with the wind speed, outside temperature, solar radiation, season, location, the structure of the greenhouse and other weather conditions

References

[1] G.P.A. Bot, Greenhouse climate: from physical processes to a dynamic model, Doctoral thesis. Agricultur Univ, Wageningen, 1983.
[2] A.M. Abdel-Ghany, and T. Kozai, Dynamic modeling of the environment in a naturally ventilated, fog-cooled greenhouse, Renewable Energy 31, pp. 15211539, 2006.
[3] M. Kyan, E. Bingl, M. Melikoglu, and A. Albostan, Modelling and simulation of a hybrid solar heating system for greenhouse applications using Matlab-Simulink, Energy Conversion and Management 72, pp.147155, 2013.
[4] R. BEN ALI, E. ARIDHI and A. MAMI, Dynamic model of an agricultural greenhouse using Matlab-Simulink environment, 16th international conference on Sciences and Techniques of Automatic control & computer engineering - STA'2015, Monastir, Tunisia, (2015).

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