

Wet-bulb temperature estimation: OLS-based simple predictive tool

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Wet bulb temperature is considered as one of the major parameter during the designing of HVAC (Heating, ventilation, and air conditioning) systems. We are going to implement the ordinary least square technique to develop a simple, robust, and rigorous predictive tool for the estimation of wet-bulb temperature as a function of dry bulb temperature and relative humidity. The performance of the proposed predictive tool is validated through psychrometric chart and also compared with previous published estimation tools. The mean absolute errors between the estimated values from the proposed tool and the psychrometric chart values were found to be 0.061°C for wet bulb temperature estimation. Furthermore, to facilitate the HVAC engineers, the proposed predictive tool is folded into a simple desktop application. This research was supported by the Basic Science Research Program Foundation of Korea (NRF) funded by the Ministry of Education (2018R1A2B6001566) and the Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2014R1A6A1031189).