عنوان مقاله:

(Predicting the Coefficients of Antoine Equation Using the Artificial Neural Network (TECHNICAL NOTE

محل انتشار:

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خلاصه مقاله:

Neural network is one of the new soft computing methods commonly used for prediction of the thermodynamic properties of pure fluids and mixtures. In this study, we have used this soft computing method to predict the coefficients of the Antoine vapor pressure equation. Three transfer functions of tan-sigmoid (tansig), log-sigmoid (logsig), and linear were used to evaluate the performance of different transfer functions to redict the coefficients of the Antoine vapor pressure equation. The critical pressure, critical temperature, critical volume, molecular weight, and acentric factor were considered as the input variables and the Antoine equation coefficients showed by the symbols A, B, and C were considered as the output variables. The results of this study indicated that the linear transfer function had a better performance than other transfer functions and the topology of 5-6-3 with Levenberg–Marquardt learning .algorithm and linear transfer function had the best performance for prediction of these coefficients

کلمات کلیدی:

vapor pressure, Antoine equation, Modeling, Neural Network, Transfer functions