عنوان مقاله:

Analysis of the overall heat transfer coefficient in a helical double-tube heat exchanger based on extended fully fuzzy linear regression

محل انتشار:

نهمین کنفرانس بین المللی پیشرفت های اخیر در مدیریت و مهندسی صنایع (سال: 1400)

تعداد صفحات اصل مقاله: 20

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خلاصه مقاله:

Regression analysis is a statistical process that can be used to estimate relationships among variables. This methodology involves various techniques to analyze the specific and unique variables, with a focus on the relationship between the dependent variable and one or more independent ones. In the present work, firstly, the fully fuzzy regression equation is converted to a linear fully fuzzy framework. Considering the least-squares approach, a model based on matrices to solve a system of equations to solve fully fuzzy linear regression using triangular fuzzy numbers for inputs and outputs .The present paper first validates the proposed model with a specific function and then evaluates the total heat transfer coefficient of a helical double-pipe heat exchanger with two inputs of inner Dean number and the annulus Dean number as a case study.

کلمات کلیدی:

Helicoidal heat exchanger; Overall heat transfer coefficient; Linear regression model; Fully fuzzy matrix equations; Triangular fuzzy numbers

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