## عنوان مقاله:

Computational Fluid Dynamics and Artificial Neural Network Modeling of Air Forced Convection on Mini Fins

## محل انتشار:

پانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1393)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

In this research an Artificial Neural network (ANN) is applied for estimating the heat transfer characteristic of plain mini-fin surfaces. The numerical data were collected by Computational Fluid Dynamics (CFD) simulation and the obtained data were used for input to the ANN modeling. The CFD simulation carried out by using the Fluent software. The output (target) data of the ANN model is Nusselt number (Nu) and input data are Reynolds number (Re), fin pitch ratio (p/H), and fin thickness ratio (t/H). The validity of the neural network modeling was evaluated through a testing data set, which were randomly extracted from the database. The estimated results of the developed ANN model were compared with the CFD resulted data for both training and testing data sets.

## کلمات کلیدی:

finned surfaces,nusselt number ,computational fluid dynamics CFD,artificial neural network ANN