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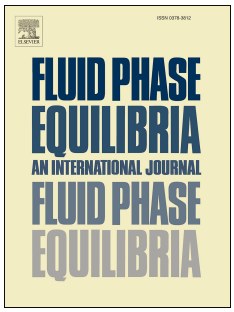

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Modeling thermal conductivity in refrigerants through Neural Networks

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ABSTRACT.

The thermal conductivity value for a material measures its attitude to transfer heat, though, not many values coming from experimental measurements of the thermal conductivity of different materials are available to the scientific community, which needs accurate model to predict such value from other observations. In this work, we trained and evaluated a Multi-Layered Perceptron architecture for a regression task in which the thermal conductivity for a set of families of refrigerants at the liquid state is predicted from their acentric factor, critical pressure, reduced temperature, and dipole moment, at atmospheric pressure condition. Such model has been proven capable to capture deep regularities over the whole data set and also across different