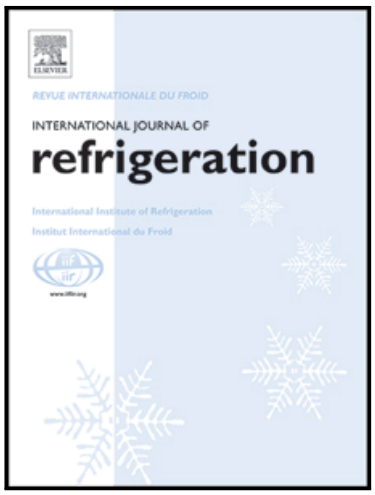

A comparison of the effect of empirical and physical modeling approaches to extrapolation capability of compressor models by uncertainty calculation: a case study with common semi-empirical compressor mass flow rate models

Howard Cheung , Shengwei Wang

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Highlights

- Models with different number of empirical coefficients are compared
- Changes of model performance with the use of empirical coefficients is quantified
- Redundant coefficients reduce model reliability regardless of their physical origins
- Extrapolation effect is not only dependent on the number of physical rules involved