# Review of: "Numerical Study of Thermal Performance on Fin and Tube Heat Exchanger with Flat Rectangular and Sinusoidal Winglet Vortex Generators"

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Potential competing interests: No potential competing interests to declare.

- Clear objective addressing heat exchanger performance enhancement through vortex generators.
- Comparison of rectangular and sinusoidal vortex generators provides useful analysis.
- Comprehensive numerical analysis of velocity, pressure, heat transfer, and friction factor.
- Appropriate use of the K-ε turbulence model, specifically the RNG variation.
- Focus on key performance metrics like the Colburn factor (j) and friction factor (f).
- Lack of experimental validation limits the applicability of results.
- Insufficient detail on model validation against experimental data or literature.
- Narrow range of Reynolds numbers limits the generalization of findings.
- Significant pressure loss penalty, especially with sinusoidal vortex generators.
- Conventional vortex generator geometries; lack of novelty in designs.
- Superficial literature review with limited critical insights.
- Limited practical discussion on implications for real-world systems.
- Grid independence test mentioned but not described in detail.
- Suggests incorporating experimental data for future studies.
- Recommends exploring a broader range of Reynolds numbers for better generalization.
- Emphasizes the need to optimize designs to balance heat transfer and pressure drop.
- Suggests investigating more innovative vortex generator geometries.
- Recommends expanding the literature review with more recent and critical analysis.