An Inverted Fins Design Problem

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ABSTRACT

An inverted fins shape design problem in determining the optimal geometry of wavyshapes inverted fins in a two-dimensional domain, based on the desired cooling tool average temperature and cooling tool area, is examined in this work. The estimated optimal wavy-shapes inverted fins are then compared with the tree-shaped inverted fins given in [1]. It is found that the optimal wavy-shaped inverted fins have better heat dissipation performance than tree-shaped inverted fins. The commercial software CFDACE+ [2] and Levenberg-Marquardt method (LMM) [3] are utilized as the design tools in this work.

Keywords: Shape Design Problem;Wavy-Shaped Inverted Fins;Levenberg-Marquardt method