

## عنوان مقاله:

Comparison of the Performance of Helical and Normal Pin Fins

## محل انتشار:

دومین کنفرانس بین المللی پژوهش در علوم و تکنولوژی (سال: 1394)

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## خلاصه مقاله:

In many engineering applications, fin arrays are used as a method to increase heat transfer rate from a surface. The amount of heat transfer depends on film coefficient of the coolant fluid (e.g. air) which is a function of the flow regime. More turbulence in air flow results in higher amounts of heat transfer. Therefore, causing turbulence in air flow is desirable in many cases. A practical way to cause turbulence in air flow which is passing through an array of fins, is using helical fins instead of straight normal fins. In this paper, the performance of helical and normal fins, which are attached to a surface with a high temperature, is evaluated using numerical simulation. It should be noticed that the pitch length of helical fins must be in an appropriate range in order to obtain better functionality. We have done CFD analysis on several models of helical pin fin arrays with different pitch lengths, the optimum amount of pitch length is found. The results show that helical pin fins with specific optimum pitch length could be used to increase the amount of heat transfer significantly

## کلمات کلیدی:

Heat transfer, CFD analysis, Helical fins

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/504881>

