

عنوان مقاله:

Investigation of the effect of different fins on the fluid passing around it by FEM

محل انتشار:

سومین کنفرانس ملی پژوهش های نوین در مهندسی و علوم کاربردی (سال: 1400)

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خلاصه مقاله:

In this project, Finite element Model is applied for investigation of fluid flow over a stretching sheet in existence of magnetic field. Finite element method is applied to find the influence of melting heat transfer on fluid flow behavior over a stretching sheet in presence of magnetic field. we investigated the flow of fluid flowing through the fins plate under the influence of the magnet. The fins were on the board and the end of the plate. In the case of chamfer fins, the maximum temperature variation is observed. In this fins, The maximum temperature of $T = ۲.۵$ and minimum temperature is $T = ۳$. in general, we conclude that the temperature flow around the rectangular fins has a maximum value than ۲ other modes. In triangular fins, the fluid temperature vector around the fins has more intensity than other modes and the temperature gradient around it is larger than the previous one and the fluid flow at the end of the plate also has more temperature than the Rectangular fins. The maximum amount of fluid concentration has been observed around the first fin of chamfer mode in range of $X=۰.۰۵$ to $X=۰.۱$. In general, the fluid concentration around the triangular fins is higher than other modes. the maximum amount of fluid concentration is found in the triangular fins on the surface. Their concentration from the first fin reaches a value of ۲.۵ and in the last fin at a value of ۱.۴ .

کلمات کلیدی:

Thread surface, Finite element method, porous domain, hydro magnetic effect

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