

عنوان مقاله:

Magnetized Bi-convective Nanofluid Flow and Entropy Production Using Temperature-sensitive Base Fluid Properties:
A Unique Approach

محل انتشار:

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خلاصه مقاله:

The flow mechanism and entropy production of a bi-convective, magnetized, radiative nano-liquid flow for an inverted cone considering temperature-sensitive water properties is accomplished numerically. The functional nanomaterial comprises Copper, Alumina in the base liquid, water. The mathematical equations representing the system's physical characteristics are solved numerically by adopting a robust numerical approach for indulgencing non-similar solutions to understand numerous parameters' effect on temperature, velocity, salient gradients, and entropy production. The investigation summarizes that buoyancy force and injection heighten the velocity, and suction, particle percentage, radiation elevate the heat transfer. At the same time, the radiation and Brinkman number enhance the entropy generation. It is also detected from this investigation that the magnetic effect shows dual behaviour in entropy generation.

کلمات کلیدی:

Bi-convection, Water-based nanofluid flows, temperature-sensitive, Linearization technique, Entropy production.

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