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Impact of partial slip on mixed convective flow towards a Riga plate comprising micropolar TiO2-kerosene/water nanoparticles
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Abstract
Purpose: The purpose of this paper is to present an inclusive study of the mixed convective flow involving micropolar fluid holding kerosene/water-based TiO2 nanoparticle towards a vertical Riga surface with partial slip. The outcomes are confined for opposing and assisting flows. Design/methodology/approach: Similarity equations are acquired and then worked out numerically by the Keller box technique. Findings: Impacts of significant parameters on microrotation velocity, temperature distribution, velocity profile together with the Nusselt number and the skin friction are argued with the help of graphs. Two solutions are achieved in opposing flow, while the solution is unique in assisting flow. It is also monitored that the separation of boundary layer delays because of micropolar parameter and accelerates because of volume fraction. Originality/value: The authors trust that all these results are new and significant for researchers. © 2018, Emerald Publishing Limited.

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