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# Darcy–Forchheimer flow of MHD Jeffrey nanoliquid over a permeable cone with Cattaneo–Christov heat and mass flux theories

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## Abstract

Objective of the present study is to magnify the effects of Cattaneo–Christov heat and mass flux models on the phenomena of heat and mass transfer aspects for single-phase Jeffrey nanoliquid above a permeable cone in the occurrence of Darcy–Forchheimer, Brownian motion and thermophoresis effects. The primitive governing equations for Jeffrey fluid flow are formulated with the aid to boundary layer approximations. The non-dimensional forms of the corresponding equations are elucidated by the optimal homotopy analysis method (OHAM). Some elementary features as velocity, temperature and nanoparticles