|  |  |  |  |
| --- | --- | --- | --- |
| Title | [Magnetohydrodynamic convective heat and mass transfer flow due to a rotating disk with thermal diffusion effect](https://asmedigitalcollection.asme.org/heattransfer/article-abstract/131/8/082001/458476) | | |
| Author(s) Name | Kh. Abdul Maleque | | |
| Contact Email(s) | maleque@aiub.edu | | |
| Published Journal Name | Journal of heat transfer | | |
| Type of Publication | Journal | | |
| Volume | 131 | Issue | 8 |
| Publisher | American Society of Mechanical Engineers Digital Collection | | |
| Publication Date | 2009/8/1 | | |
| ISSN | ISSN 0022-1481  EISSN 1528-8943 | | |
| DOI | <http://dspace.aiub.edu:8080/jspui/handle/123456789/406> | | |
| URL | https://scholar.google.com/citations?view\_op=view\_citation&hl=en&user=UhkxgEQAAAAJ&citation\_for\_view=UhkxgEQAAAAJ:ufrVoPGSRksC | | |
| Other Related Info. |  | | |
|  | | | |

|  |  |
| --- | --- |
| Abstract |  |
| Considering the importance of mass transfer in a magnetohydrodynamic (MHD) convective flow, a numerical solution is obtained for a steady three-dimensional MHD convective mass transfer flow in an incompressible fluid due to a rotating disk with thermal diffusion. The governing partial differential equations of the MHD convective mass transfer flow are reduced to nonlinear ordinary differential equations by introducing suitable similarity transformations. The nonlinear similarity equations are then solved numerically by Nachtsheim–Swigert iteration technique. The results of the numerical solution are then presented graphically in the form of velocity, temperature, and concentration profiles. The corresponding skin-friction coefficients, the Nusselt number, and the Sherwood number are also calculated and displayed in tables showing the effects of various parameters on them. A good comparison between the … | |