Electroosmotic flow of power-law fluids in curved rectangular microchannel with high zeta potentials

Nader Nekoubin

PII: S0377-0257(17)30464-0
DOI: 10.1016/j.jnnfm.2018.06.005
Reference: JNNFM 4022

To appear in: *Journal of Non-Newtonian Fluid Mechanics*

Received date: 11 October 2017
Revised date: 6 June 2018
Accepted date: 17 June 2018

Please cite this article as: Nader Nekoubin , Electroosmotic flow of power-law fluids in curved rectangular microchannel with high zeta potentials, *Journal of Non-Newtonian Fluid Mechanics* (2018), doi: 10.1016/j.jnnfm.2018.06.005

Highlights

- Electroosmotic flow of power-law fluid in curved geometry is solved numerically.
- Secondary flows in shear-thinning electroosmotic flows are comparatively stronger.
- Variation of electrokinetic separation distance changes secondary flow patterns.
- Increasing of curvature intensifies the circulation strength considerably.
- Increasing of zeta potential considerably increases the performance of mixing.