

Accepted Manuscript

A Heuristic Method for Modeling Three-Dimensional Non-Newtonian Flows of Polymer Melts in Single-Screw Extruders

Christian Marschik , Wolfgang Roland , Bernhard Löw-Baselli ,
Jürgen Miethlinger

PII: S0377-0257(17)30232-X
DOI: [10.1016/j.jnnfm.2017.08.007](https://doi.org/10.1016/j.jnnfm.2017.08.007)
Reference: JNNFM 3921



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

Received date: 23 May 2017
Revised date: 19 July 2017
Accepted date: 26 August 2017

Please cite this article as: Christian Marschik , Wolfgang Roland , Bernhard Löw-Baselli , Jürgen Miethlinger , A Heuristic Method for Modeling Three-Dimensional Non-Newtonian Flows of Polymer Melts in Single-Screw Extruders, *Journal of Non-Newtonian Fluid Mechanics* (2017), doi: [10.1016/j.jnnfm.2017.08.007](https://doi.org/10.1016/j.jnnfm.2017.08.007)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- The pumping characteristics of power-law fluids in single-screw extruders is investigated.
- The flow is assumed to be three-dimensional, isothermal, and fully developed.
- A heuristic optimization algorithm is applied to approximate a large number of numerical solutions.
- The presented analytical model removes the need for time-consuming numerical calculations.

Download English Version:

<https://daneshyari.com/en/article/4995526>

Download Persian Version:

<https://daneshyari.com/article/4995526>

[Daneshyari.com](https://daneshyari.com)