

[Available Issues](#) | [Instructions to Authors](#) | [Japanese](#) >> [Publisher Site](#)

 Author:  [ADVANCED](#) | Volume  Page   
 Keyword:   |   

[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1880-1986

PRINT ISSN : 1346-8235

**Journal of Textile Engineering**

Vol. 53 (2007) , No. 1 31-35


[\[PDF \(2046K\)\]](#) [\[References\]](#)

## Numerical Simulation for Orientation of Thin Disk Particles in a Newtonian Flow through a L-Shape Channel

[Kunji CHIBA](#)<sup>1)</sup> and [Takayuki KOMATSU](#)<sup>1)</sup>

*1) Faculty of Education, Shiga University*

(Received December 19, 2006)

(Accepted for publication December 29, 2006)

**Abstract:** Orientation evolution of thin disk particles, such as talc and mica, in a Newtonian flow through a L-shape channel was numerically simulated by decoupling flow kinematics with particle orientation using the Jeffery equation to obtain the knowledge of the processing of thin micro-particle reinforced composites: (1) periodic flip-over of a thin disk particle moving near the channel wall can be clearly observed for large initial azimuthal angle: (2) when a thin disk particle rounds the corner of a L-shape channel, a disk particle tends to align in the direction perpendicular to the flow plane as it approaches alignment along the streamline.

**Key Words:** [Thin disk particle](#), [Orientation evolution](#), [L-shape channel flow](#)


[\[PDF \(2046K\)\]](#) [\[References\]](#)

 Download Meta of Article [\[Help\]](#)
[RIS](#)
[BibTeX](#)

JOI JST.JSTAGE/jte/53.31

Copyright (c) 2007 by The Textile Machinery Society of Japan

---



---

[Japan Science and Technology Information Aggregator, Electronic](#)

