

Accepted Manuscript

Title: Investigation on Wire Electrochemical Micro Machining of Ni-based Metallic Glass

Authors: Lingchao Meng, Yongbin Zeng, Di Zhu

PII: S0013-4686(17)30511-X

DOI: <http://dx.doi.org/doi:10.1016/j.electacta.2017.03.045>

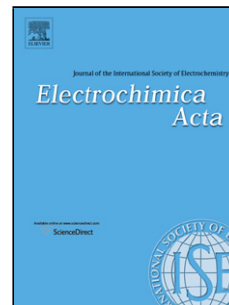
Reference: EA 29079

To appear in: *Electrochimica Acta*

Received date: 16-1-2017

Revised date: 27-2-2017

Accepted date: 6-3-2017



Please cite this article as: Lingchao Meng, Yongbin Zeng, Di Zhu, Investigation on Wire Electrochemical Micro Machining of Ni-based Metallic Glass, *Electrochimica Acta* <http://dx.doi.org/10.1016/j.electacta.2017.03.045>

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.

Investigation on Wire Electrochemical Micro Machining of Ni-based Metallic Glass

Lingchao Meng^{a,b}, Yongbin Zeng^{a,b*}, Di Zhu^{a,b}

Affiliations

a. College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China.

b. Jiangsu Key Laboratory of Precision and Micro-Manufacturing Technology, Nanjing 210016, China.

*Corresponding author

Address: Nanjing University of Aeronautics and Astronautics, 29 Yudao Street, Nanjing 210016, People's Republic of China; E-mail: binyz@nuaa.edu.cn.

Highlights

- 1. WECMM with nanosecond pulses is proposed firstly for fabricating micro complex components based on metallic glasses.
- 2. Applicable electrolyte for WECMM of the Ni-based MG is discussed.
- 3. Significantly uniform machined surface is achieved in H₂SO₄ solution.
- 4. High machining efficiency and stability are obtained experimentally by modifying pulse waveforms and electrolyte compositions.
- 5. Complex microstructures of Ni-based MG are fabricated by WECMM with optimized parameters.

Abstract

Metallic glasses (MGs) have been recognized as promising materials for realizing high-performance micro devices in micro electromechanical systems (MEMS) due to their excellent functional and structural characteristics. However, the applications of MGs are

Download English Version:

<https://daneshyari.com/en/article/6471498>

Download Persian Version:

<https://daneshyari.com/article/6471498>

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