

## Accepted Manuscript

An analytical model for the prediction of force distribution of round insert considering edge effect and size effect

Jian Weng , Kejia Zhuang , Dahu Zhu , Shunsheng Guo , Han Ding

PII: S0020-7403(17)32405-0  
DOI: [10.1016/j.ijmecsci.2018.01.024](https://doi.org/10.1016/j.ijmecsci.2018.01.024)  
Reference: MS 4142



To appear in: *International Journal of Mechanical Sciences*

Received date: 27 August 2017  
Revised date: 17 January 2018  
Accepted date: 18 January 2018

Please cite this article as: Jian Weng , Kejia Zhuang , Dahu Zhu , Shunsheng Guo , Han Ding , An analytical model for the prediction of force distribution of round insert considering edge effect and size effect, *International Journal of Mechanical Sciences* (2018), doi: [10.1016/j.ijmecsci.2018.01.024](https://doi.org/10.1016/j.ijmecsci.2018.01.024)

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

- A novel way of discretization of uncut chip area for round insert is proposed.
- The distributions of local parameters along the cutting edge of round insert are discussed.
- An explanation of the dominance of size effect and edge effect for turning with round insert, under the condition of low feed rate, is presented.
- The predicted results in our work show good agreement with the measured ones.

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/7173810>

Download Persian Version:

<https://daneshyari.com/article/7173810>

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