## **Accepted Manuscript**

Analytic relations for two-dimensional indentations with surface tension

Jianmin Long, Weike Yuan, Wen Chen, Gangfeng Wang

PII: S0167-6636(17)30664-6

DOI: 10.1016/j.mechmat.2018.01.003

Reference: MECMAT 2838

To appear in: Mechanics of Materials

Received date: 25 September 2017
Revised date: 12 January 2018
Accepted date: 18 January 2018



Please cite this article as: Jianmin Long, Weike Yuan, Wen Chen, Gangfeng Wang, Analytic relations for two-dimensional indentations with surface tension, *Mechanics of Materials* (2018), doi: 10.1016/j.mechmat.2018.01.003

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.

#### ACCEPTED MANUSCRIPT

### **Highlights**

- Two-dimensional indentations with surface tension are formulated and the corresponding singular integral equations are numerically solved.
- For each indentation, the analytic solutions of two limit cases considering only bulk elasticity or surface tension are derived.
- Based on the results of two limit cases, the analytic relations between load and contact half-width or indent depth are formulated for the general case, and compared with the numerical results.

### Download English Version:

# https://daneshyari.com/en/article/7178533

Download Persian Version:

https://daneshyari.com/article/7178533

<u>Daneshyari.com</u>