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KARYA ILMIAH : JURNAL ILMIAH

Judul Jurnal Ilmiah (Artikel) : Statistical aspects of fatigue crack growth life of base metal, weld metal and heat affected zone in FSWed 7075-T651 aluminum alloy

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Status Pengusul : penulis ke – 2

Identitas Jurnal Ilmiah :

- a. Nama Jurnal : Journal of Mechanical Science and Technology
- b. Nomor ISSN : ISSN: 1738-494X (Print) 1976-3824 (Online)
- c. Vol, No., Bln Thn : Volume 28, Issue 10, October 2014
- d. Penerbit : Korean Society of Mechanical Engineers
- e. DOI artikel (jika ada) : -
- f. Alamat web jurnal : <https://link.springer.com/journal/12206/28/10/page/1>
- Alamat Artikel : <https://link.springer.com/article/10.1007/s12206-014-0906-8>
- g. Terindex : Scopus

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Semarang, 14 Mei 2019

Reviewer 2

Dr. Eng. Achmad Widodo, S.T., M.T.
 NIP. 197307021999031001
 Unit Kerja : T. Mesin FT UNDIP

Reviewer 1

Dr. Agus Suprihanto, S.T, M.T.
 NIP. 197108181997021001
 Unit Kerja : Teknik Mesin FT UNDIP

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Semarang, 14 Mei 2019

Reviewer 1


Dr. Agus Suprihanto, S.T, M.T.

NIP. 197108181997021001

Unit Kerja : Teknik Mesin FT UNDIP

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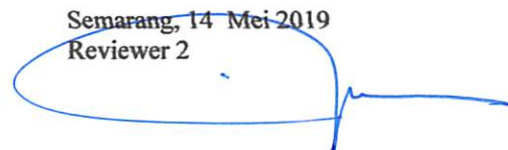
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Semarang, 14 Mei 2019
Reviewer 2



Dr. Eng. Achmad Widodo, S.T., M.T.
NIP. 197307021999031001
Unit Kerja : Teknik Mesin FT UNDIP

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Journal of Mechanical Science and Technology
Volume 28, Issue 10, 22 October 2014, Pages 3957-3962

Statistical aspects of fatigue crack growth life of base metal, weld metal and heat affected zone in FSWed 7075-T651 aluminum alloy (Article)

Sohn, H.-J.^a, Haryadi, G.D.^b, Kim, S.-J.^c  

^aThe 7th R&D, Institute Agency for Defense Development, Daejeon, 305-152, South Korea

^bDepartment of Mechanical Engineering, Diponegoro University, Semarang, Indonesia

^cDepartment of Mechanical & Automotive Engineering, Pukyong National University, Busan, 608-739, South Korea


Abstract

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The statistical aspects of fatigue crack growth life of base metal (BM), weld metal (WM) and heat affected zone (HAZ) in friction stir welded (FSWed) 7075-T651 aluminum alloy has been studied by Weibull statistical analysis. The fatigue crack growth tests were performed at room temperature on ASTM standard CT specimens under three different constant stress intensity factor range controls. The main objective of this paper is to investigate the effects of statistical aspects of fatigue crack growth life on stress intensity factor ranges and material properties, namely BM, WM and HAZ specimens. In this work, the Weibull distribution was employed to estimate the statistical aspects of fatigue crack growth life. The shape parameter of Weibull distribution for fatigue crack growth life was significantly affected by material properties and the stress intensity factor range. The scale parameter of WM specimen exhibited the lowest value at all stress intensity factor ranges. © 2014, The Korean Society of Mechanical Engineers and Springer-Verlag Berlin Heidelberg.

SciVal Topic Prominence

Topic: Fatigue crack propagation | Water cooling systems | Crack growth

Prominence percentile: 15.950 

Author keywords

Constant stress intensity factor range control testing Fatigue crack growth life Friction stir welding Weibull distribution

Indexed keywords

Engineering controlled terms:

Aluminum Aluminum alloys Cracks Fatigue crack propagation Friction
Friction stir welding Metals Statistics Stress intensity factors Weibull distribution
Welding

Engineering uncontrolled terms

7075-T651 aluminum alloys Constant stress Fatigue cracks Fatigue-crack-growth tests
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Ku, M.-H. , Hung, F.-Y. , Lui, T.-S. (2019) *Materials Chemistry and Physics*

Fatigue crack growth and probability assessment for transverse tig welded aluminum alloy 6013-T4

Haryadi, G.D. , Dewa, R.T. , Ekaputra, I.M.W. (2018) *Journal of Theoretical and Applied Mechanics (Poland)*

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Kim, S.-J. , Jeong, Y.-H. , Sohn, H.-J.
(2013) *QR2MSE 2013 - Proceedings of 2013 International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering*

Experimental investigation of fatigue crack growth behavior in friction stir welded 7075-T651 aluminum alloy joints under constant stress intensity factor range control testing (for LT orientation specimen)

Jeong, Y.H. , Kim, S.J.
(2013) *Transactions of the Korean Society of Mechanical Engineers, A*

Effect of initial crack location on spatial randomness of fatigue crack growth resistance in friction stir welded AA7075-T651 plates

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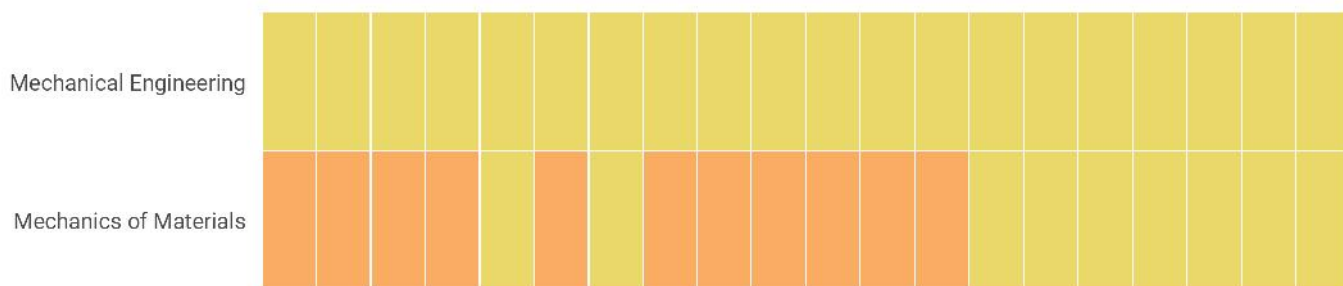


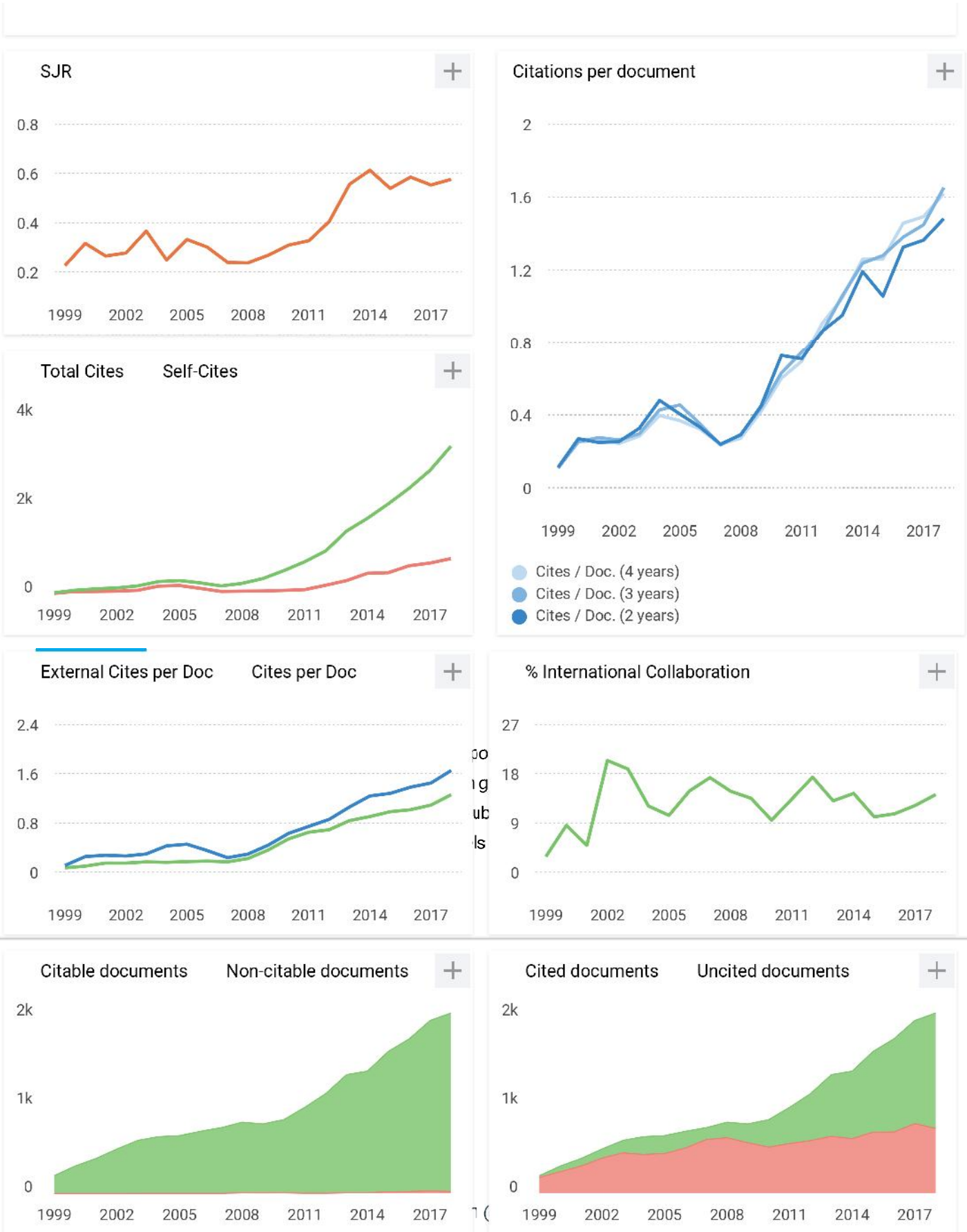
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In this issue (50 articles)

1. 

OriginalPaper

Planning performance based contracts of repairable system using discrete event simulation

Xinghui Zhang, Jianshe Kang, Jinsong Zhao... Pages 3909-3915

2. 

OriginalPaper

Decision diagram based methods and reliability analysis for k-out-of-n: G systems

Shumin Li, Shudong Sun, Shubin Si... Pages 3917-3923

3. 

OriginalPaper

Mean-value first-order saddlepoint approximation based collaborative optimization for multidisciplinary problems under aleatory uncertainty

Debiao Meng, Hong-Zhong Huang, Zhonglai Wang... Pages 3925-3935

4. 

OriginalPaper

A Bayesian optimal design for degradation tests based on

the inverse Gaussian process

Weiwen Peng, Yu Liu, Yan-Feng Li... Pages 3937-3946

5. 

OriginalPaper

Metaheuristic-based inspection policy for a one-shot system with two types of units

Won Young Yun, Li Liu, Young Jin Han Pages 3947-3955

6. 

OriginalPaper

Statistical aspects of fatigue crack growth life of base metal, weld metal and heat affected zone in FSWed 7075-T651 aluminum alloy

Hye-Jeong Sohn, Gunawan Dwi Haryadi... Pages 3957-3962

7. 

OriginalPaper

Reliability and risk treatment centered maintenance

Martin Pexa, Tomáš Hladík, Zdeněk Aleš... Pages 3963-3970

8. 

OriginalPaper

Reliability analysis of degradation with a new independent increment process

Qiong Wu, Jianzhong Yang, Jingyan Wang... Pages 3971-3976

9. 

OriginalPaper

A fatigue and low-energy shock-based approach to predict fatigue life

Hongxia Chen, Yunxia Chen, Yi Yang Pages 3977-3984

10. 

OriginalPaper

Study on the lifetime assessment of output shaft bearings for transmissions in tracked vehicle considering its supporting structures

Jong-Won Park, Dong-Soo Jung, Yong Bum Lee... Pages 3985-3990

11. 

OriginalPaper

Probabilistic analysis of rattle occurrence in the gap of automotive interior parts

Sung-Hoon Park, Joo-Ho Choi Pages 3991-3996

12. 

OriginalPaper

Comparative study on civil aircraft noise metrics as annoyance estimators for interoperability between other aircraft noise metrics

Yoonho Cho, Jaehwan Kim, Taehyung Kim... Pages 3997-4003

13. 

OriginalPaper

Design of generated axial force measurement tester for tripod constant velocity joints under shudder condition

Kwang-Hee Lee, Deuk-Won Lee, Jin-Ho Chung... Pages 4005-4010

14. 

OriginalPaper

Measurement of the rotational inertia of bodies by using mechanical spectroscopy

Carlos Alberto Fonzar Pintão Pages 4011-4020

15. 

OriginalPaper

Finite element modeling for stick-slip pattern of squeal modes in disc brake

Jaeyoung Kang Pages 4021-4026

16. 

OriginalPaper

Dedicated algorithm and software for the integrated analysis of AC and DC electrical outputs of piezoelectric vibration energy harvesters

Jae Eun Kim Pages 4027-4036

17. 

OriginalPaper

Corrosion effects on fatigue crack propagation of stainless steel and its heat affected zone in pH buffer solutions

Heung-Shik Lee, Sung-Ho Bang, Tae-Won Kim Pages 4037-4047

18. 

OriginalPaper

Dynamic test and fatigue life evaluation of compressor blades


Kyungkook Kim, Young Shin Lee Pages 4049-4056

19. 

OriginalPaper

Enhancing tube hydroformability by reducing the local strain gradient at potential necking sites

S. G. R. Shin, B. D. Joo, C. J. Van Tyne... Pages 4057-4062

20. 

OriginalPaper

**Contact behavior analysis of X-ring under internal pressure
and uniform squeeze rate using photoelastic experimental
hybrid method**

Dong-Chul Shin, Jai-Sug Hawong, Si-Wang Lee... Pages 4063-4073

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