

# Document details

< Back to results | 1 of 8 Next >

Export Download Print E-mail Save to PDF Add to List More... >

International Journal of Engineering and Technology(UAE) Open Access  
Volume 7, Issue 3.29 Special Issue 29, 2018, Pages 381-385

## Fluid-structure interactions of variable span wings in low Reynold flows (Article)

Salleh, H. Sahrin, S.B.T., Azmi, M.H.B., Khan, S.A.

Department of Mechanical Engineering, Kulliyyah of Engineering, International Islamic University Malaysia, Malaysia

### Abstract

View references (14)

Numerical method is one of the method which is applied to study the aerodynamics of static variable span morphing wing and to evaluate flow structure over the wing surface (especially leading edge) at different low reynolds number/flow. The numerical result of lift coefficient vs span increment (percentage) is validated with experimental result from previous study. Effect of the change of wingspan on low Reynold number/flows is investigated for the wing lift coefficient, and aerodynamics efficiency. Some contour results including pressure contour is observed. The pressure contour along wingspan from each case is figured out. © 2018 Hafiz Salleh et. al.

### Author keywords

Low Reynold Morphing Wing Variable Span Wing

### Metrics

0 Citations in Scopus

0 Field-Weighted Citation Impact



### PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

### Cited by 0 documents

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

ISSN: 2227524X  
Source Type: Journal  
Original language: English

Document Type: Article  
Publisher: Science Publishing Corporation Inc

### References (14)

View in search results format >

All Export Print E-mail Save to PDF Create bibliography

- 1 Anderson, J.D.  
(2011) *Fundamental of Aerodynamics*. Cited 69 times.  
New York, NY: McGraw-Hill Education

- 2 Prabhakar, N., Prazenica, R.J., Gudmundsson, S.  
Dynamic analysis of a variable-span, variable-sweep morphing UAV

(2015) *IEEE Aerospace Conference Proceedings*, 2015-June, art. no. 7119089. Cited 7 times.  
ISBN: 978-147995379-0  
doi: 10.1109/AERO.2015.7119089

View at Publisher

### Related documents

Static Structural Analysis of a Variable Span Morphing Wing for Unmanned Aerial Vehicle

Bashir, M. , Rajendran, P.  
(2018) *IOP Conference Series: Materials Science and Engineering*

Method of finding aerodynamic characteristic equations of missile for trajectory simulation

Charoenpon, A. , Pankeaw, E.  
(2011) *World Academy of Science, Engineering and Technology*

Design and aerodynamic characteristics analysis of a section morphing wing based on smart materials

Yu, Y.M.  
(2013) *Advanced Materials Research*

View all related documents based on references

Find more related documents in Scopus based on:

- 3 Ajaj, R., Friswell, M., Flores, E.S., Little, O., Isikveren, A.  
Span Morphing: A Conceptual Design Study.53rd AIAA/ASME/ASCE/AHS/ASC Structures  
(2012) *Structural Dynamics and Materials Conference*  
*20th AIAA/ASME/AHS Adaptive Structures Conference < BR > 14th AIAA*
- 
- 4 Mestrinho, J., Gamboa, P., Santos, P.  
Design Optimization of a Variable-Span Morphing Wing for a Small UAV.52nd AIAA/ASME/ASCE/AHS/ASC Structures  
(2011) *Structural Dynamics and Materials Conference*
- 
- 5 Retrieved December 16, 2017, from  
[http://www.bing.com/cr?IG=3733E339E289487DBFC3427ADA40C6FD&CID=05E77062A49692127F37C5A2BE668E5&rd=1&h=5UITH0iX6VJCzyiTThitAdbsF\\_pbwTckTbagrJya-jvc&r=http%3a%2f%2fwww.air-foiltools.com%2f&p=DevEx,5064.1](http://www.bing.com/cr?IG=3733E339E289487DBFC3427ADA40C6FD&CID=05E77062A49692127F37C5A2BE668E5&rd=1&h=5UITH0iX6VJCzyiTThitAdbsF_pbwTckTbagrJya-jvc&r=http%3a%2f%2fwww.air-foiltools.com%2f&p=DevEx,5064.1)
- 
- 6 Ruffles, W., Dakka, S.M.  
Aerodynamic Flow Characteristics of Utilizing Delta Wing Configuration in Supersonic and Sub-sonic Flight Regimes  
(2016) *Journal of Communication and Computer*, 13 (6). Cited 2 times.
- 
- 7 Huang, R., Qiu, Z., Wang, X.  
Continuum aeroelastic model and flutter analysis for a variable-span morphing wing  
(2013) *Applied Mechanics and Materials*, 300-301, pp. 1136-1143. Cited 3 times.  
ISBN: 978-303785651-2  
doi: 10.4028/www.scientific.net/AMM.300-301.1136  
[View at Publisher](#)
- 
- 8 (2016)  
November 05 Retrieved December 11, 2017  
<http://www.pinterest.com/pin/338966309438292074>
- 
- 9 Retrieved December 11, 2017  
<http://goo.gl/im-ages/Q8xrGU>
- 
- 10 (2016)  
Associate Analyst at CAMP Systems International, Inc. Follow April 01. Morphing wings. Retrieved December 11, 2017  
<http://www.slideshare.net/sesha-saichowdary/morphing-wings-60318505>
- 
- 11 *Aircraft*. Cited 6 times.  
Retrieved December 11, 2017  
<http://drawing-database.com/rockwell-b-1-lancer>

- 12 Wilcox, D.C.  
(2010) *Turbulence modelling for CFD*. Cited 810 times.  
La Canada (Calif.): DCW Industries

- 
- 13 Santos, P., Sousa, J., Gamboa, P.  
Variable-span wing development for improved flight performance  
(2017) *Journal of Intelligent Material Systems and Structures*, 28 (8), pp. 961-978. Cited 6 times.  
<http://jim.sagepub.com/>  
doi: 10.1177/1045389X15595719

[View at Publisher](#)

- 
- 14 Bae, J.-S., Seigler, T.M., Inman, D.J.  
Aerodynamic and static aeroelastic characteristics of a variable-span morphing wing  
(2005) *Journal of Aircraft*, 42 (2), pp. 528-534. Cited 86 times.  
<http://arc.aiaa.org/loi/ja>  
doi: 10.2514/1.4397

[View at Publisher](#)

---

✉ Salleh, H.; Department of Mechanical Engineering, Kulliyyah of Engineering, International Islamic University Malaysia, Malaysia; email:sakhan@iium.edu.my  
© Copyright 2018 Elsevier B.V., All rights reserved.

[⟨ Back to results](#) | 1 of 8 [Next ⟩](#)

[^ Top of page](#)

## About Scopus

- [What is Scopus](#)
- [Content coverage](#)
- [Scopus blog](#)
- [Scopus API](#)
- [Privacy matters](#)

## Language

- [日本語に切り替える](#)
- [切换到简体中文](#)
- [切换到繁體中文](#)
- [Русский язык](#)

## Customer Service

- [Help](#)
- [Contact us](#)

**ELSEVIER**

[Terms and conditions](#) ↗ [Privacy policy](#) ↗

Copyright © 2018 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.  
We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the  
use of cookies.

 RELX Group™