7th Symposium on the Mechanics of Slender Structures (MoSS2017)

Journal of Physics: Conference Series Volume 1048

Merida, Spain 14 - 15 December 2017

Editors:

Ignacio Herrera Navarro Stefan Kaczmarczyk

ISBN: 978-1-5108-6789-5 ISSN: 1742-6588 Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics All rights reserved. The material featured in this book is subject to IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics at the address below.

Institute of Physics Dirac House, Temple Back Bristol BS1 6BE UK

Phone: 44 1 17 929 7481 Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400 Fax: 845-758-2633 Email: curran@proceedings.com Web: www.proceedings.com

Table of contents

Volume 1048

The 7th Symposium on Mechanics of Slender Structures

14-15 December 2017, Mérida, Spain

Accepted papers received: 21 June 2018 Published online: 4 July 2018

Preface

The 7th Symposium on Mechanics of Slender Structures

Peer review statement

Papers

Design of slender and lightweight rehabilitation orthotics based on Lines of Non Extension

J. Barrios-Muriel, G. Rodríguez Jiménez, F. Romero Sánchez, F. J. Alonso Sánchez and D. Rodríguez Salgado.....1

Static contact of belt and pulleys with account for shear and gravity

A K Belyaev, V V Eliseev, H Irschik and E A Oborin.....6

Comparison of Three Different Techniques for Nonlinear Position and Vibration Control of a Rotating Smart Beam

A Fenili.....15

Mechanical response of a human femoral diaphyseal stabilized fracture using implant plate

I Herrera, B Rio, D Rodríguez and R Lorente.....25

The modelling and prediction of dynamic responses of slender continua deployed in tall structures under long-period seismic excitations

S Kaczmarczyk.....34

Elevator Rope Tension Analysis with Uneven Groove Wear of Sheave

Daisuke Nakazawa, Seiji Watanabe, Daiki Fukui, Ayaka Fujii and Ken Miyakawa.....44

The influence of shape on the vibratory response of variable beams

D Rodriguez, G Rodriguez and I Herrera.....50

Effects of Muscle Length and Physiological Cross Sectional Area on Muscle Force Production: a Comparative Study

F Romero-Sánchez, F J Alonso, J Barrios-Muriel and G Rodríguez-Jiménez.....58

Key Innovations and Technologies in Vertical Transportation Systems since 1980

Rory S. Smith.....65

The modal characteristics of high aspect ratio sailplane wings including the effects of bending and torsional rigidities

H Su and R Banerjee.....72

Energy efficient active vibration control strategies using electromagnetic linear actuators

Angel Torres-Perez, Ali Hassan, Stefan Kaczmarczyk and Phil Picton.....82

Vertical vibration of elevator compensating sheave due to brake activation of traction machine

S Watanabe and T Okawa.....96