THREAD
EUROPEAN TRAINING NETWORK

HFSS 2023 - International Conference on Highly Flexible Slender Structures
25 - 29 September 2023, Rijeka, Croatia

Contributions being presented by THREAD Early Stage Researchers

MS-1 Constitutive modelling for flexible slender structures

Davide Manfredo, Vanessa Dörlich, Joachim Linn, Martin Arnold
Inelastic Constitutive Behaviour and Hysteresis Operators - Modelling and Simulations for 2D Cosserat Rods

Sudhanva Kusuma Chandrashekhara, Dejan Zupan
Static and dynamic analysis of geometrically and materially nonlinear spatial frame like structures

Martina Stavole, Rodrigo T. Sato Martín de Almagro, Vanessa Dörlich, Sigrid Leyendecker
Homogenised stiffness coefficients of unloaded endoscope shafts

Mohammad Ali Saadat, Damien Durville
On the bending of spiral strands

MS-2 Contact and friction in mechanics of flexible slender structures

Jan Tomec, Gordan Jelenić
Unbiased line-to-line contact method for static frictionless beam-to-beam contact

Amol Kulkarni, Armin Bosten, Vanessa Dörlich, Olivier Brüls, Joachim Linn
A numerical bending study of sandwiched beams with a mortar line-to-line contact formulation

Konstantina Ntarladima, Johannes Gerstmayr
Coupling of bending and axial motion in highly flexible axially moving beams modeled with ALE

Narges Mohammadi, Asko Rouvinen, Pasi Korkealaakso, José L. Escalona
Real-time co-simulation of wire-rope systems

MS-3 Geometric integration methods for non-linear structural dynamics

Jan Tomec, Gordan Jelenić
Energy-momentum conserving time integrator for geometrically exact beam dynamics

Denise Tumiotto, Martin Arnold
Implementation and Stability Issues of Lie Group Integrators for Cosserat Rod Models with Constraints

Martin Arnold, Elena Celledoni, Ergys Çokaj, Andrea Leone, Davide Murari, Brynjulf Owren, Denise Tumiotto
Lie group integrators for mechanical systems and their stability

Elena Celledoni, Andrea Leone, Davide Murari, Brynjulf Owren
Machine learning applications for mechanical systems

Martina Stavole, Rodrigo T. Sato Martín de Almagro, Sigrid Leyendecker
2D Euler elastica in constrained environments

MS-6 Slender beam-like structures with scientific passion – MS in honour of Prof. Miran Saje

Marielle Debeurre, Aurélien Grolet, Olivier Thomas
Nonlinear dynamics of highly flexible beam structures: frequency domain-based finite element computation of the nonlinear modes

MS-7 Modelling and simulation of textile and fibrous materials

Indrajeet Patil, Alejandro Cosimo, Olivier Brüls
Modelling a braiding process as a constrained multibody system with frictional contacts

[THREAD] Numerical Modelling of Highly Flexible Structures for Industrial Applications
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