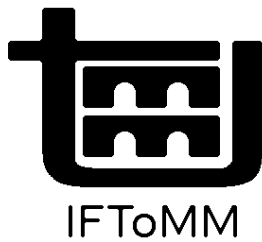


TECHNICAL UNIVERSITY OF LIBEREC

Department of Textile Machine Design



XII. International Conference

on the Theory of Machines
and Mechanisms

PROGRAMME

September 6-8, 2016

LIBEREC, CZECH REPUBLIC

By accrediting of Czech Committee IFToMM,
The International Federation for the Promotion of Mechanism and Machine Science

XII. International Conference on the Theory of Machines and Mechanisms

September 6 - 8, 2016, Liberec, Czech Republic

is organized by Department of Textile Machine Design

The conference is organized under the patronage of:



Czech National Committee for the Theory of Machines
and Mechanisms IFToMM



Czech Society for Mechanics



VUTS, Liberec, Czech Republic

TU Liberec: tel. + 420 48 535 3173
fax + 420 48 535 3514

Please note that the conference programme might be changed

Version 020916

13.30 - 15.30 Lectures

Chairman: M. Ceccarelli

P. Jirásko and M. Václavík

CALCULATION OF THE CONTOURS OF A RADIAL DOUBLE CAM BASED ON AN APPROXIMATE COURSE OF THE 2nd DERIVATIVE OF THE DISPLACEMENT LAW OF A WORKING LINK

J. D'Alessio K. Russell and R. S. Sodhi

ON TRANSFEMORAL PROSTHETIC KNEE DESIGN USING RRSS MOTION AND AXODE GENERATION

L. Rybak, D. Malyshev and A. Chichvarin

ON APPROACH BASED ON LIE GROUPS AND ALGEBRAS TO THE STRUCTURAL SYNTHESIS OF PARALLEL ROBOTS

J. Ondrášek

THE ELASTIC COMPRESSION IN THE CONTACT REGION OF A CAM MECHANISM GENERAL KINEMATIC PAIR

M. Hejnová and J. Ondrášek

LIFE ESTIMATION OF THE CONTACT SURFACES

16.00 - 17.30 Lectures

Chairman: E.C. Lovasz

H. Terada, K. Makino, H. Nishizaki, E. Yanase, T. Suzuki and T. Tanzawa

POSITIONING CONTROL OF A MICRO MANIPULATION ROBOT BASED ON VOICE COMMAND RECOGNITION FOR THE MICROSCOPIC CELL OPERATION

Y. Zhang, V. Arakelian and J.-P. Le Baron

DESIGN OF A LEGGED WALKING ROBOT WITH ADJUSTABLE PARAMETERS

U. Nishizawa, S. Toyama and T. Oohashi

SPHERICAL ULTRASONIC MOTOR FOR SPACE

T. Martinec, J. Mlýnek and M. Petrů

COMPOSITE PRODUCTION AND INDUSTRIAL ROBOT TRAJECTORY CALCULATION

S. Pramanik and Dr. S. S. Thipse

A NOVEL FOUR WHEEL VEHICLE

8.30 - 10.30 Lectures

Chairman: *J. Zapoměl*

B. Beirow, A. Kühhorn and J. Nipkau

***FORCED RESPONSE REDUCTION OF A COMPRESSOR BLISK ROTOR
EMPLOYING INTENTIONAL MISTUNING***

A.S. Sergaliyev and L.A. Khajiyeva

***FLAT FLEXURAL VIBRATION OF DRILL-STRING WITH AN INITIAL
CURVATURE***

R. Weber and A. Kühhorn

***REDUCED ORDER ANALYSES OF MULTI-STAGE COUPLED STRUCTURES
WITH MAIN FOCUS ON DISK-DOMINATED MODES***

J. Stadnicki and M. Gląbek

***OFFSET OF NATURAL FREQUENCIES OF TOOTHED WHEEL BY MEANS OF
PARAMETRIC OPTIMISATION***

E. Tomeh

POSSIBILITIES FOR REDUCING CAR GEARBOX VIBRATION AND NOISE

11.00 - 12.30 Lectures

Chairman: *P. Ferfecki*

Š. Dyk and V. Zeman

NONLINEAR VIBRATION OF NUCLEAR FUEL RODS

M. Maták, M. Gašparík, P. Šolek, M. Margetin

***A DESIGN OF THE TWO ARCHITECTURES OF ELECTROMAGNETIC
VIBRATION ENERGY HARVESTING DEVICES***

L. Hružík, A. Bureček and M. Vašina

EFFECT OF OIL VISCOSITY ON PULSATING FLOW IN PIPE

V.I. Ivlev, S.Yu. Misyurin and A.P. Nelyubin

***EXPERIMENTAL RESEARCH AND MATHEMATICAL MODELING OF SCROLL
MACHINE IN AIR MOTOR MODE***

M. Mazac and M. Maly

***THE PINION TEETH TEMPERATURES MEASURED DURING THE DIFFERENT
POWER LEVELS OPERATION***

13.30 - 15.30 Lectures

Chairman: *F. Palčák*

R. Bulín and M. Hajžman

VARIOUS STRATEGIES OF ELASTIC FORCES EVALUATION IN THE ABSOLUTE NODAL COORDINATE FORMULATION

R. Jančo and P. Élesztős

THERMAL FIELD SIMULATION OF REPAIR THREADS IN A HOLE IN THE COVER OF A PRESSURE VESSEL BY WELDING USING SYSWELD

M. Sivčák and T. Hruš

INFLUENCE OF BUBBLES IN THE SHOCK LIQUID AT ITS COMPRESSIBILITY

M. Sivý and M. Musil

PROCEDURE FOR SEISMIC ANALYSIS OF LIQUID STORAGE TANKS USING FEM APPROACH AND ANALYTICAL MODELS

P. Šidlof, Z. Braier, P. Klouček and J. Ondrášek

UNEXPECTED VIBRATIONS OF RELATIVELY SIMPLE CUTTING MACHINE MECHANISM

16.00 - 17.30 Lectures

Chairman: *J. Černožský*

J. Antoš

THE TESTING STAND OF THE DIRECT LINEAR AND THE TORQUE SERVO DRIVES SIEMENS CONTROLLED BY THE SIMOTION C

Z. Braier, P. Šidlof, V. Čejka and P. Žďárek

NEW METHOD OF CONTACTLESS MEASUREMENT AND ANALYSIS OF CNC MACHINE SPINDLE LOPPING

M. Gašparík, M. Černý, P. Šolek and M. Maták

SEMI-AUTOMATIC TRANSMISSION IN A CAR

P. Dostrašil

IMPLEMENTATION OF SPECIFIC DISPLACEMENT DIAGRAMS FOR THE CONTROL OF KINETIC SCULPTURES WITH YASKAWA ELECTRONIC CAMS

F. Palčák

IMPROVEMENT OF DYNAMIC CHARACTERISTICS OF THE CAR IN THE LIGHT OF TECHNOLOGICAL EVOLUTION

13.30 - 15.30 Lectures

Chairman: *L.A. Khajiyeva*

P. Ferrecki, J. Zapoměl and M. Marek

MULTI-PHYSICAL ANALYSIS OF THE FORCES IN THE FLEXIBLE ROTOR SUPPORTED BY THE MAGNETORHEOLOGICAL SQUEEZE FILM DAMPERS

M. Yu, N. Feng, E. Hahn

EXPERIMENTAL EVALUATION OF A ROTOR MODEL BASED FOUNDATION IDENTIFICATION PROCEDURE

A. B. Kydyrbekuly, L. A. Khajiyeva, G. E. Ybraev

RESEARCHING OF THE METHOD OF SEPARATION OF FINE-GRAIN PARTICLES BY CENTRIFUGATION IN A LIQUID MEDIUM

J. Zapoměl and P. Ferrecki

THE STEADY STATE RESPONSE OF MULTI-DISC ROTORS DAMPED BY MAGNETORHEOLOGICAL SQUEEZE FILM DAMPERS

A. Bisoi, R. Bhattacharyya and A.K. Samantaray

SPEED CONTROL OF 3-PHASE INDUCTION MOTOR IN PRESENCE OF SOMMERFELD EFFECT

16.00 - 17.30 Lectures

Chairman: *J. Beran*

F. Schwarzfischer, S. Kurtenbach, J. Onischke and B. Corves

DESIGN AND DEVELOPMENT OF A HEDDLE SHAFT MECHANISM FOR AIR-JET WEAVING MACHINES

J. Valtera

UTILIZATION OF THE SYSTEM OF MAGNETIC SPRING WITH SPECIFIC CHARACTERISTIC FOR THE CENTRAL TRAVERSING SYSTEM OF THE ROTOR SPINNING MACHINE

P. Žabka

MECHATRONIC MODEL FOR TRAVERSING ROD LONGITUDINAL VIBRATION ANALYSIS

J. Žák

ADAPTIVE TIMING OF RELAY NOZZLES OF AN AIR JET WEAVING LOOM

13.30 - 15.00 Poster Section

P. Brabec, M. Malý and R. Voženílek

INERTIA MATRIX AND VEHICLE DRIVEABILITY

J. Cernohorsky and M. Cadek

SMART REHABILITATION SPLINT

J. Komárek

DYNAMIC MODEL OF THE MECHANICAL SYSTEM OF THE NEEDLE BAR

M. Konečný

ANALYSIS OF THE MECHANISM OF THE DRILL HAMMER

I. Matoušek

SIMULATION OF ISOTHERMAL COMPRESSION TEST

P. Němeček

ACOUSTIC SOLUTION FOR A CAR CAB INTERIOR

L. Půst, L. Pešek, A. Radolfová

FREE VIBRATION FREQUENCY SPECTRUM OF FOUR-PLANETARY GEARING BOX

A. Richter and J. Ondrášek

ROTARY TABLE MACHINE INPUT PARAMETERS OPTIMIZATION

J. Skřivánek, M. Bílek, O. Bařka and M. Kašpárek

ELECTRONIC LINK BETWEEN THE NEEDLE CYLINDER AND THE DIAL OF THE SMALL DIAMETER KNITTING MACHINE

P. Srb, P. Kulhavy, V. Fliegel and P. Lepsik

CAM MECHANISM FOR CAR SEAT TESTING

P. Starý

DIAGNOSIS OF A COMMON RAIL HIGH PRESSURE INJECTOR SYSTEM

R. Voženílek, S. Beroun and J. Břoušek

DESIGN OF A TRIBOMETER FOR PISTON RINGS

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The conference organizers gratefully acknowledge the generous support provided by the following:

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PRECIOSA

GENERAL INFORMATION

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Conference Secretary:

Tuesday from 8:00 to 13:00: Building G 3rd floor (registration)
Other times: Building F ground floor, room F04

Registration:

Registration will take place on Tuesday 6th September 2016 from 8:00 to 10:00
at the building G 3rd floor, Studentská 2, Liberec 1 (GPS: 50.77333N, 15.07633E)

Information for Speakers:

Each lecture room is equipped with data-projector.
Time for presentation is 15-20 min.

