



Universitatea
Transilvania
din Braşov

ADMITERE DOCTORAT 2020-2021

Sesiunea Septembrie 2020

Şcoala Doctorală Interdisciplinară
(SDI)

Domeniul de doctorat:
INGINERIE MECANICĂ

Conducător doctorat:
VLASE SORIN

TEME (TEMATICĂ) PENTRU CONCURS

TEMA 1: *Formalisme analitice in analiza dinamica a sistemelor multicorp cu elemente elastice*

Conţinut / Principalele aspecte abordate -

Formalisme analitice in domeniu

MEF aplicata la sisteme MBS cu elemente elastice

Formalismul Lagrange, ecuatiile lui Kane, metoda lui Maggi, ecuatiile Gibbs Appell

Aplicatii industriale

Bibliografie recomandată:

1. <https://sites.google.com/site/mecanica1statica/>
2. <https://sites.google.com/site/mecanica2cinematica/>
3. <https://sites.google.com/site/mecanica3dinamica/>

Note /Precondiții / Obs: *se va adapta /completa/elimina, după caz*

TEMA 2: *Analiza dinamica a unei mase inertiiale suspendate utilizata pentru izolarea antivibratorie*

Conţinut / Principalele aspecte abordate -

Izolare antivibratorie

MEF aplicata la studiul masei suspendate

Aplicatie la studiul vibratiilor masei suspendate la laserul de la Magurele- ELI-NP

Bibliografie recomandată:

1. <https://sites.google.com/site/mecanica1statica/>
2. <https://sites.google.com/site/mecanica2cinematica/>
3. <https://sites.google.com/site/mecanica3dinamica/>

Conducător doctorat:

Nume, prenume, semnătură

Vlase Sorin



Transilvania
University
of Brasov

ADMISSION TO DOCTORAL STUDIES

2020-2021

Session September 2020

Interdisciplinary Doctoral School
(SDI)

Field of doctoral studies:
MECHANICAL ENGINEERING
PhD supervisor:
VLASE SORIN

TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

TOPIC 1: *New analytical formalism applied to the dynamics analysis of elastic MBS*

Content / Main aspects to be considered -

Formalism in Analytical Mechanics

MEF applies to elastic MBS

Lagrange equation, Kane equations, Maggi method, equations Gibbs-Appell

Industrial Applications

Recommended bibliography:

1. <https://sites.google.com/site/mecanica1statica/>
2. <https://sites.google.com/site/mecanica2cinematica/>
3. <https://sites.google.com/site/mecanica3dinamica/>

Prerequisites / Remarks: *se va adapta /completa/elimina, după caz*

TOPIC 2: *Vibration analysis of an inertial mass used for to vibration isolation*

Content / Main aspects to be considered -

Vibration insulation

MEF applied to the study of inertial mass

Case study: inertial mass of the gamma beam system at Magurele- ELI-NP

Recommended bibliography:

1. <https://sites.google.com/site/mecanica1statica/>
2. <https://sites.google.com/site/mecanica2cinematica/>
3. <https://sites.google.com/site/mecanica3dinamica/>

Prerequisites / Remarks: *se va adapta /completa/elimina, după caz*

PhD supervisor:

Nume, prenume, semnătură

Vlase Sorin