Lectures on Dynamics

Aline Souza de Paula
University of Brasília (UnB, Brazil)
Department of Mechanical Engineering

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Wind turbine: modelling and dynamical analysis

The expansion of offshore wind energy introduces dynamic challenges arising from increased tower height, higher excitation forces, and substantial water depths. This underscores the importance of a profound understanding of the system's dynamical response. In these two lectures, we will delve into the modeling and dynamical analysis of wind turbines, encompassing both powertrain torsional vibration and tower vibration. Additionally, foundation modeling, considering both fixed and buoyant configurations, will be addressed.

Topics: structural dynamics; structural modelling; wind turbines; wind engineering.

12 FEB **15 FEB** **15:00–17:00**

Lect #1: Mon **12 Feb** 2024
Lect #2: Thu **15 Feb** 2024

Metamaterials for vibration reduction

In recent years, there has been a significant increase in the use of metamaterials for achieving effective vibration control. In this talk we will cover concepts on the use of metamaterials for vibration reduction encompassing discrete and continuous mechanical systems. The discussion will extend to encompass both linear and nonlinear systems, providing a comprehensive understanding of the potential of metamaterials in vibration control.

Topics: linear and nonlinear dynamics; metamaterials; vibration control; discrete and continuous system dynamics.

22 FEB **15:00–17:00**

Lect #3: Thu **22 Feb** 2024

LECTURE LOCATION

In presence: multimedia room (classroom 3), ground floor side B, bldg Civil Engineering.
University of Rome Tor Vergata - via del Politecnico 1, 00133 Rome

In remote: online classroom on MS Teams
Team name: Lectures on Dynamics - **Team code**: qnw3iu0 - **Team link**: urly.it/3nqcr

Lect #1: Mon 12 Feb 2024 (15h00-17h00): urly.it/3zzbx
Lect #2: Thu 15 Feb 2024 (15h00-17h00): urly.it/3zzb
Lect #3: Thu 22 Feb 2024 (15h00-17h00): urly.it/3zzba

Link Lect #1   Link Lect #2   Link Lect #3

REFERENCE CONTACT
prof. Giuseppe Vairo
✉ vairo@ing.uniroma2.it
☎ +39 06 7259 7088