Dynamics of Structures 2022-2023

Joint CM–DoS laboratory, May 18, May 24, June 6.

Requests for the June 6 presentation

On June 6 your group will present 3 slides to describe some aspects of the dynamic behavior of the dam With reference to the pristine configuration of the dam,

1. Compute the first 6 eigenvalues of the rough model and present, *in a single slide*, the associated information as 6 subplots, arranged in 2 rows × 3 columns, in which you fully remove the *x* and the *y* axes, and in each subplot
   - a title, "Mode *n*, T_n = xx.xx s", indicating the mode number and the natural period of vibration,
   - a graph of the deformed shape
   - the value of the eigenvalue, ω_n^2= xx.xx rad²/s²
   - the value of the circular frequency, ω_n = xx.xx rad/s
   - the value of the frequency, f_n = xx.xx Hz
2. Compute the first 6 eigenvalues of the refined model and present, in tabular format and in a single slide, the 6 natural periods of vibration for the rough and the refined model
3. For a horizontal ground motion, for the first 6 modes of vibration of the rough model, determine the modal contribution factors for …
   - the horizontal displacement of point A
   - the overturning moment at the base of the dam slice
   - the total shear force at the base of the dam slice

   and present you results in both tabular and graphical format, *in a single slide.*

Next steps

If your results are correct you will receive an *individual* assignment, whose satisfactory completion grants you admission to the final (oral) exam (on the contrary, you have to pass a written test to be admitted to the oral).
There is no single deadline for the assignment submission, instead a new deadline will be posted for each of the calls of June, July, September, January and February. You can use the Lab2023 results to your advantage until February 2024 only.
For the July call, the deadline will be a few days after the official date, to let you have some time to work on your assignment.