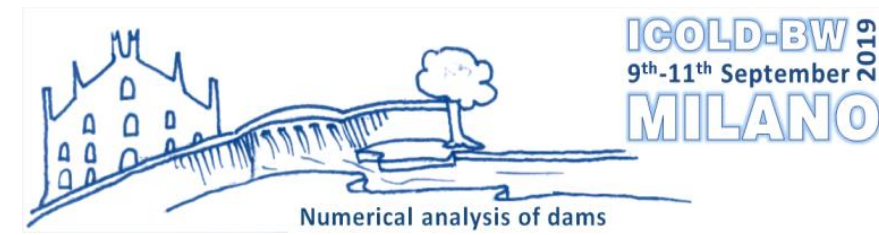




ICOLD
INTERNATIONAL
COMMISSION ON
LARGE DAMS



15th INTERNATIONAL BENCHMARK WORKSHOP ON NUMERICAL ANALYSIS OF DAMS

Theme A

SEISMIC ANALYSIS OF PINE FLAT CONCRETE DAM

9 September 2019, Milan, Italy

Theme A - Final remarks

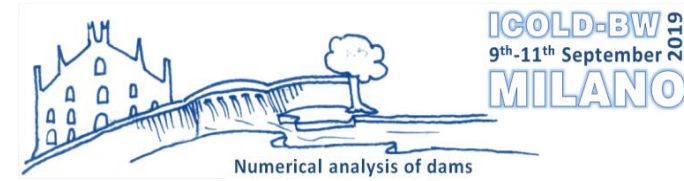
Final Remarks



An overview of Theme A benchmark studies

- Presented an approach where seismic load is input to the model as a stress and acceleration records
- Boundary conditions in seismic wave simulation were investigated
- Foundation block size effect was considered
- Natural frequencies were determined
- Eccentric mass vibration generator simulation was conducted
- Presence of the dam structure and the reservoir at various water levels was studied
- Validation of the models with mass and mass-less foundation was conducted
- Non-linear behaviour of the concrete dam was analysed

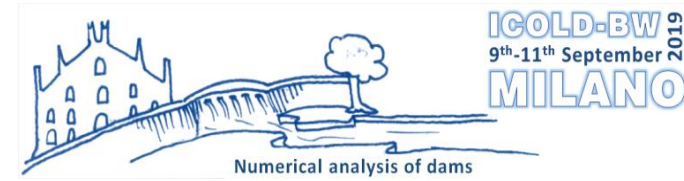
Final Remarks



The Theme A benchmark is a step in developing a forum where

- The analysts can verify their software and the models selected for the seismic analysis of concrete dams
- The software developer can validate the program features and the solution accuracy using the results of the benchmark studies
- The researcher can further expand and investigate topics presented in the benchmark workshop
- The dam owners can built their confidence in the results if these were obtained by a software validated with the benchmark study cases

Final Remarks



Conclusions

- A coordinated and systematic approach needs to be established for verification of the models in seismic analyses of concrete dams
- Computation models need to be verified before they are validated using the field or laboratory data

Thank you