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Spotlight on *Structures*



Read the latest issue

Volume 30 of *Structures* (April 2021) is available to read at www.sciencedirect.com/journal/structures/vol/30.

Editor-in-Chief, Leroy Gardner, has selected a paper on soil–structure interaction and performance-based seismic design as his 'Featured Article' from this issue. The article will be available free of charge for six months.

Editor-in-Chief's Featured Article

Modelling of soil–structure interaction in OpenSees: A practical approach for performance-based seismic design

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Abstract

In this paper, a numerical tool based on the Monkey-tail fundamental lumped parameter model is proposed for the simulation of dynamic soil–structure interaction (SSI). The proposed model has been implemented in the OpenSees finite element environment where the input parameters are merely function of the soil properties. The ease of use, accuracy and versatility of the proposed model is demonstrated in order to encourage its use within,

among others, the practising engineers' community. Furthermore, the influence of the SSI and local soil conditions (i.e., site effect) on the seismic response of two 5-storey steel moment-resisting frame buildings has been investigated. Preliminary results shed light on the influence of these two geotechnical aspects on the structural seismic response where peak floor displacements and inter-storey drifts considering the SSI are even larger in the lower stories than those of the fixed base case. Furthermore, the results revealed the dependence of the soil amplification factor on the fundamental period of vibration, seismic intensity level and soil stiffness which are not taken into account by the current European design codes.

→| Read the full paper at <https://doi.org/10.1016/j.istruc.2021.01.006>

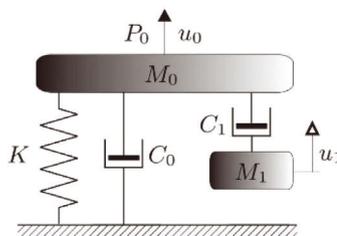
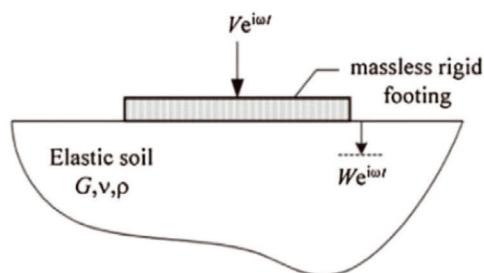
Call for papers

SEMC 2022: Eighth International Conference on Structural Engineering, Mechanics and Computation, 5–7 September 2022, Cape Town, South Africa

SEMC 2022 aims to bring together academics, researchers and practitioners in all areas of structural engineering and related disciplines (including mechanics of materials and structures, and associated computation), to review recent achievements in the advancement of knowledge and understanding in these areas, share the latest developments, and address the challenges that the present and the future pose.

Authors are invited to prepare an abstract of 200–300 words, and submit this to the Conference Editor, Prof. Alphose Zingoni of the University of Cape Town, via email (alphose.zingoni@uct.ac.za).

Abstract submission deadline:
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