

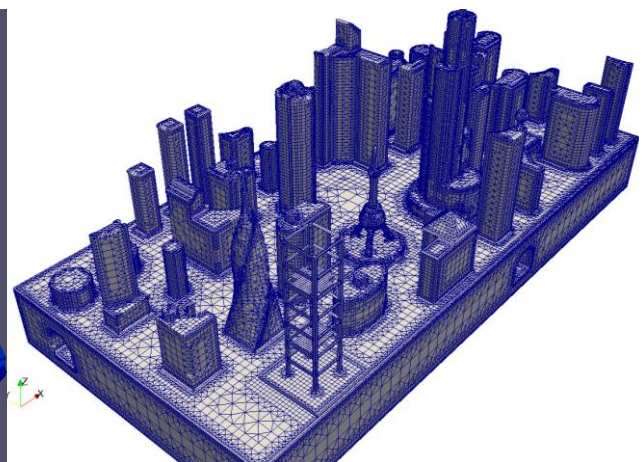
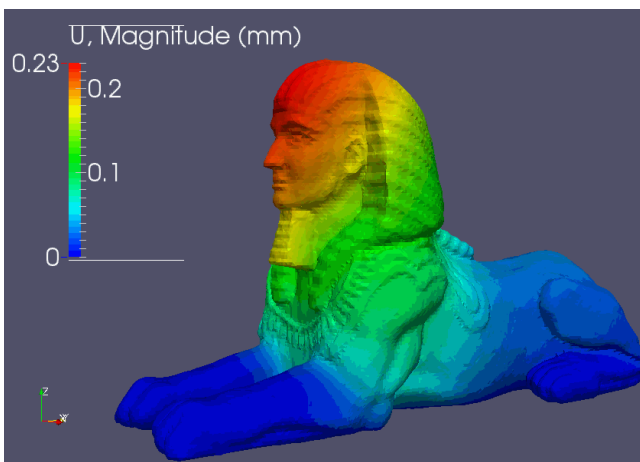


河海大學

The First Workshop on Recent Progress of the Scaled Boundary Finite Element Method

College of Mechanics and Materials, Hohai University, Nanjing, China

Nov. 4~6, 2017



INTRODUCTION

Objectives

The scaled boundary finite element method (SBFEM) has been developed into a general purpose numerical method since it was first proposed by Song and Wolf in 1996 for the solution of wave propagation problems. This method is semi-analytical and only the boundaries of the subdomains are discretized. Its advantages were firstly recognized for the modelling of problems involving unbounded media and singularities. Recently, a methodology for constructing arbitrary polygon/polyhedron elements for linear and nonlinear analyses was established based on the SBFEM. This development theoretically renders the range of application of the SBFEM as wide as that of the displacement-based finite element method. Today, the application of the SBFEM has been expanded to many other important fields in engineering, such as fluid mechanics, electrostatics, sensitivity analysis and heat transfer. However, great potential of the SBFEM in modelling 3D microstructures of concrete or composite materials, crack propagation, dynamic contact for cracks analysis, moving boundary problems, etc. remains to be explored.

Conference Topics

Over the years, research has refined the initial version of the method and one can identify the following salient topics under particularly intensive study:

- Solid and Fracture Mechanics
- Infinite Domain Problems
- Fluid-structure interaction
- Combined experimental and numerical SBFEM methodologies
- Computer implementation aspects.

Short Course

Fundamental and MATLAB Implementation of the Scaled Boundary Finite Element Method, presented by Prof. Chongmin Song, University of New South Wales, Australia.

COMMITTEES

Conference Chairmen

- Prof. Gao Lin (honorary chairman), *Dalian University of Technology, China.*
- Prof. Chongmin Song (co-chairman), *University of New South Wales, Australia.*
- Prof. Chengbin Du (co-chairman), *Hohai University, China.*

Scientific Committee

- Prof. Chongmin Song, *University of New South Wales, Australia.*
- Prof. Gao Lin, *Dalian University of Technology, China.*
- Prof. Carolin Birk, *Universität Duisburg-Essen, Germany.*
- Prof. Chengbin Du, *Hohai University, China.*
- Prof. Zhenjun Yang, *Zhejiang University, China.*
- Prof. Degao Zou, *Dalian University of Technology, China.*
- Prof. Shenshen Chen, *East China Jiaotong University, China.*
- Dr. Ean Tat Ooi, *Federation University, Australia.*
- Dr. Zhiqiang Hu, *Dalian University of Technology, China.*
- Dr. Jianbo Li, *Dalian University of Technology, China.*

Organizing Committee

- Prof. Chengbin Du, *Hohai University, China.*
- Dr. Hong Zhong, *Dalian University of Technology, China.*
- Dr. Liguang Sun, *Hohai University, China.*
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- Dr. Yiqian He, *Dalian University of Technology, China.*
- Dr. Jun Liu, *Dalian University of Technology, China.*
- Dr. Junyu Liu, *Shenyang University of Technology, China.*
- Dr. Yi Wang, *Shenyang Agriculture University, China.*

- Dr. Zihua Zhang, *Ningbo University, China.*
- Dr. Yichao Gao, *Huaqiao University, China.*
- Dr. Peng Zhang, *Hohai University, China.*

Conference Secretariat

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DATES AND FEES

Dates

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| Deadline for submitting abstract | October 20, 2017 |
| Notification of acceptance of abstracts | October 25, 2017 |
| Conference | November 4-5, 2017 |
| SBFEM course for students and young teachers | November 6, 2017 |

Fees

Regular Fee: 800 RMB
Student Fee: 400 RMB

Registration fees will include: Program, morning and afternoon coffee breaks, lunch, supper.

COURSE

Date & Time: November 6, 2017, 9:00~11:00, 14:30~16:30

Speakers: Prof Chongmin Song (University of New South Wales)



Title: Fundamental and MATLAB Implementation of the Scaled Boundary Finite Element Method