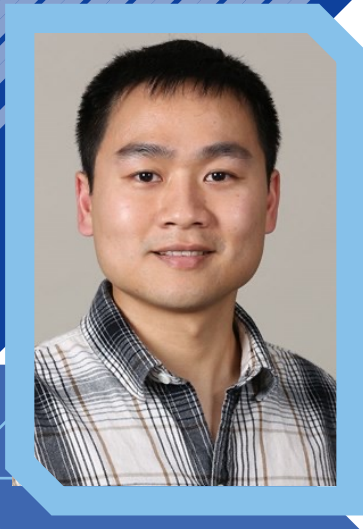


高性能 EDA 算法  
校企联合实验室

学术报告系列



报告人

吴博尉

University of Massachusetts Lowell

### 报告题目

A simple quadrature method for singular integral operators on surfaces

### 报告时间

2024 年 8 月 9 日 下午 4:00 – 5:00

### 报告地点

光华楼东主楼 1513 室

### 报告摘要

Boundary Value Problems (BVPs) are ubiquitous in scientific and engineering applications. The Boundary Integral Equation Method is a robust and accurate method for solving BVPs, which has the great advantage of dimensionality reduction: all of the unknowns reside on the boundary surface instead of in its enclosing volume. A key challenge when solving integral equations is that special quadrature methods are required to discretize the underlying singular and near-singular integral operators. Accurate discretization of these operators is of essential importance in problems that involve close interacting components. In this talk, we present a simple singular quadrature method that is based on the trapezoidal rule with error corrections. This quadrature method is high-order accurate, fast, robust, and easy to extend to a variety of applications.

### 报告人简介

Dr. Bawei Wu received his Ph.D. in Applied and Interdisciplinary Mathematics from the University of Michigan in 2019. He was a postdoctoral fellow between 2019 and 2022 at the Oden Institute of the University of Texas at Austin, after which he joined the University of Massachusetts Lowell in 2022. Dr. Wu's research focuses on developing accurate and fast numerical methods for the solution of integral equations and applying them to boundary value problems in mathematical physics.

组织委员会: 江如俊 郦旭东 李颖洲 罗 璐  
邵美悦 魏 轲 印 佳



復旦大學  
FUDAN UNIVERSITY