DC1 at CIMNE, Barcelona, Spain

CFD techniques for IBRA-type discretizations.

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Nicolò Antonelli

About Me

- 25 years old from Gavardo (BS), Italy 🇮🇹

- Interests: Basketball, hiking and mountains!

At 12 years old dreaming of becoming a basketball player.
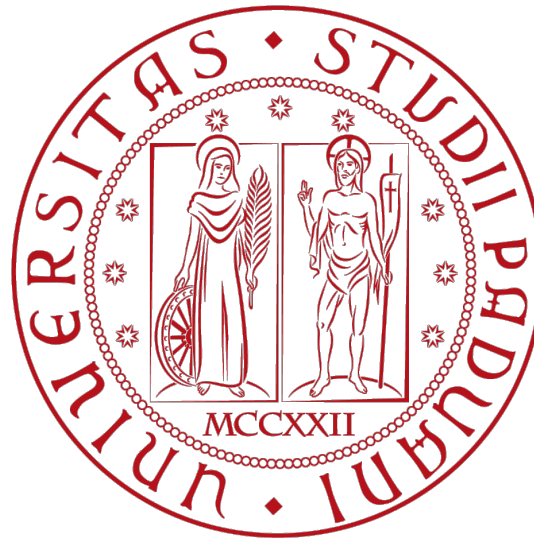

A throwback to my scouting days.

Where I come from: Gavardo, Brescia, Italy

Gecko

Design for *IGA*-type discretization workflows

Nicolò Antonelli

Education

- Scientific High School in Salò (BS), Italy.

- Bachelor's degree in Mechanical Engineering, University of Padua, Italy.

- Master's degree in Mathematical Engineering, University of Padua, Italy.

- Master's thesis: "*A novel shifted boundary method (SBM) for embedded domains based on Multi-Point Constraints*".
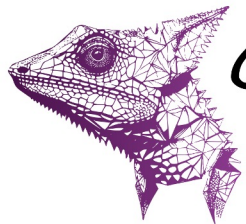
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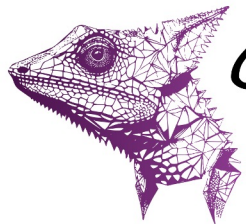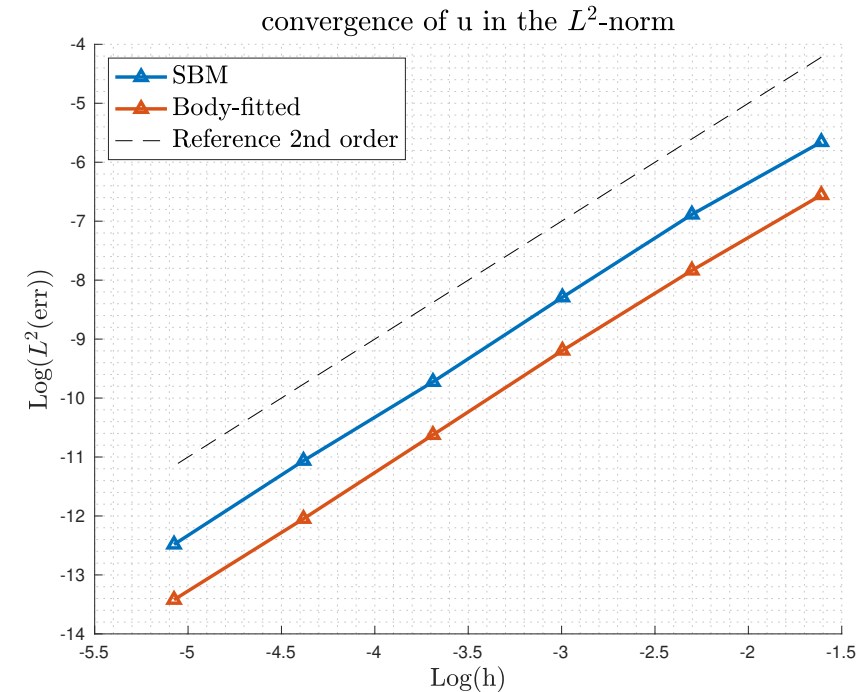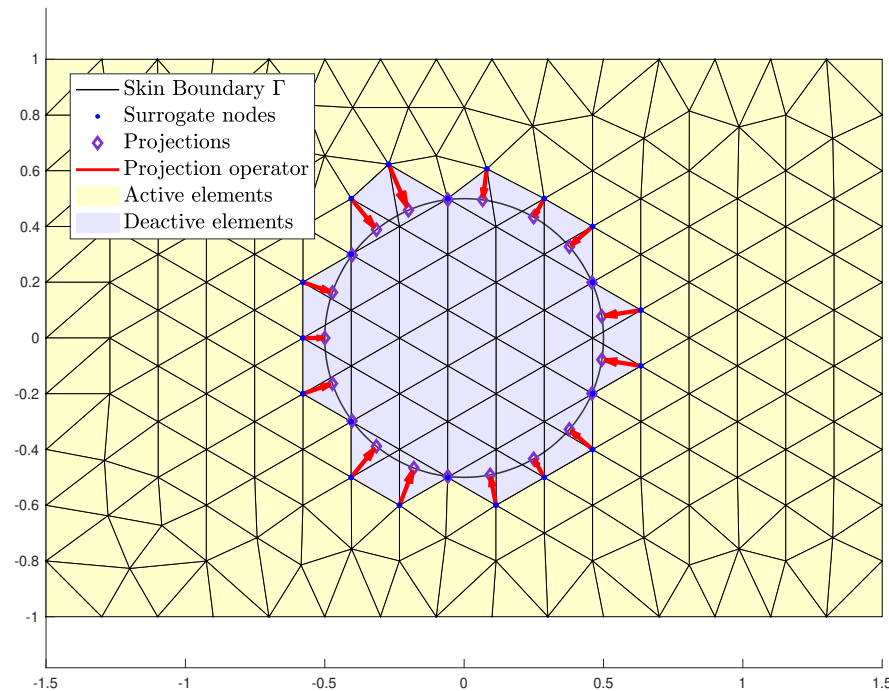Design for *IGA*-type discretization workflows

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Master's Thesis

Master's thesis: "*A novel shifted boundary method (SBM) for embedded domains based on Multi-Point Constraints*".

Collaborating with CIMNE I developed within the Kratos Multiphysics framework the method proposed by *Prof. Guglielmo Scovazzi* for convection-diffusion problems.

The SB method is an embedded method based on the Taylor expansions.

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Design for *IGA*-type discretization workflows

convergence of u in the L^2-norm

Nicolò Antonelli
PhD Project Overview

Objective: explore the use of IBRA-type discretizations in the context of CFD.

Supervisors:
Prof. Riccardo Rossi & Prof. Rubén Zorrilla

Design for *IGA*-type discretization workflows

Current ideas:

- Enhance the *IGA* application of Kratos Multiphysics.

- Develop the *IGA* application for *CFD* problems.

- Represent immersed solid objects in a fluid domain.

- Explore the possibility of using embedded approaches, like the *SBM*.

Thank you!

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