Karlsruhe Institute of Technology

Simstack: An Intuitive Workflow-Framework

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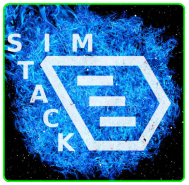
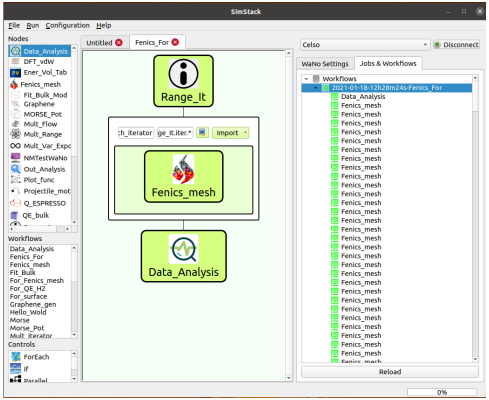
WORKFLOW GROUP

Simstack Overview

- Workflow Active Nodes-(WaNo) *xml* structure.
- Quick incorporation of new modules.
- Drag and Drop workflow construction.
- Interlinking of modules from various sources.
- Automated HPC handling and module interfacing.





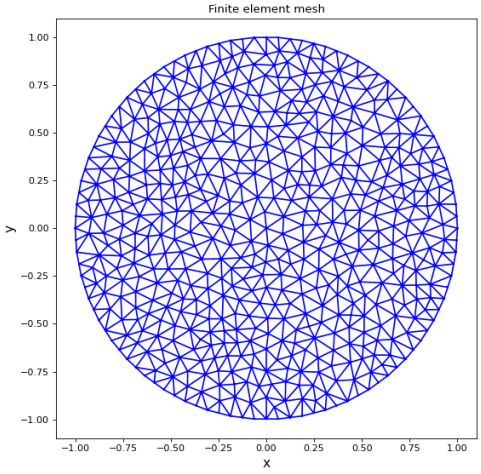
Deflection of a membrane

- Compute the deflection $D(x, y)$ of a two-dimensional, circular membrane of radius R, subject to a load p over the membrane.
- The PDE model,

$$-T\nabla^2 D = p \text{ in } \Omega = \{(x, y) \mid x^2 + y^2 \leq R\}.$$

- The load is modeled by a Gaussian function.
- $D = 0$ as boundary condition.
- Scaled equation

$$-\nabla^2 \omega(x, y) = 4 \exp^{-\beta^2(x^2+(y-R_0)}$$



Workflow Team

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