Elmer/Ice, a software for Ice Sheet Modelling: tools for development, implementation and visualisation
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**CONTEXT**

Elmer/Ice is an open source software for glaciers and ice sheet flow modelling. It is based on the finite element model Elmer mainly developed by CSC-IT Center for Sciences Ltd. in Finland.

Collaborative developments and specific applications of the code are concomitant. This requires the use of efficient tools to track any change of the model.

Figure 1: Surface velocity of Greenland computed with Elmer/Ice. Gillet-Chaulet et al., 2012

**EVOLUTION OF THE SOFTWARE ELMER/ICE**

**GIT**
- Official repository: GitHub: elmerfem
  - https://github.com/ElmerCSC/elmerfem
- Several branches

**COMPILATION MULTI-PLATEFORM**
- Languages: C++, Fortran90
- Tools: CMake
- Machines: Local machines & cluster, mesocenter, HPC Center (CINES)
- Platform: Bull, Intel
- Operating System:

**VERSIONING**

**TOOL BOX**

**Elmer/Ice Sheet**

**OBJECTIVES**

Outlines for futures developments are:

**MONITORING**

Analyse the outputs of the simulations in real time and give some informations on technical elements (time step, ...)

*Languages: Python, ParaView & VTK*

**TOOLBOX**

Contribute to the coupled ice-sheet/ocean models, a toolbox is being developed to automatically generate input files and meshes for standard problems.

*Languages: Python*

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