The OpenCMT Blast Furnace Simulator

Requirements

The enviroment must be set up according to the [guide](#)

OpenCMT Blast Furnace Simulator: building the code

The source code for the blast furnace simulator is stored in [Baltig](#):

```
git clone https://baltig.infn.it/muontomography/blemab-simulator.git
cd blemab-simulator
```

⚠️ The old repository [muBlast-simulator](#) must be considered deprecated

These are the steps required for building the simulator and install it in the system:

```
mkdir build
cd build
cmake3 -DCMAKE_INSTALL_PREFIX=/usr \
       -DCMAKE_BUILD_TYPE=RelWithDebInfo \
       -DCMAKE_CXX_STANDARD=17 \
       -DVMC_STANDALONE=ON \
       -DPACKAGE_INSTALL_LIB_DIR=/usr/lib64 \
       -DPACKAGE_INSTALL_INC_DIR=/usr/include \
       -DPACKAGE_INSTALL_DATA_DIR=/usr/share ..
make
sudo make install
```

The libraries and header files are installed in the standard locations for a Linux distribution, so there's no need for further configurations.

OpenCMT Blast Furnace Simulator: testing the application

The simulator requires two different configuration files: **g4config.in** and **blemab.ini**. The templates for those files with basic definitions are located in the **setup** directory of the blemab-simulator project.

The configuration files must be located in the working directory, together with the directories:

- **root** containing the artifacts of the simulation
- **output** containing the log files

The directories must be created before running the simulation.

A simple test is:

```
simulate_blemab -run 1 -events 100000
```