Instructions for Execution

1. Place the `particleSystem` folder in `pmlib/testSuite/` folder of your Unicorn setup.
2. Now, go to `pmlib/testSuite/particleSystem/` folder
3. Compile using the command: **`make`**
4. Execute using the command: **`make run`**

The number of nodes on which we need to execute the program can be changed in the `makefile` by changing the `-n` argument of the `mpirun` command. The host names of the machines have to be specified in the `build/linux/mpi-hosts` file.

Apart from this, a number of constants have been defined in the file `source/code/inc/common.h`. You can change these values and compile/run again.

The default values of these constants are given below:

Constant	Meaning	Default value	Comments
MAX_PARTICLES_NUM	Maximum number of particles in the system	1024*1024	
CHUNK_FACTOR	Number of chunks along an axis	4	*Number of chunks in the system = 4x4x4 = 64*
CHUNK_DIM	Chunk dimension in terms of cell units	4	*Number of cells in each chunk = 4x4x4 = 64*
CELL_SIZE	Size of each cell	5.0	
NUM_ITERATIONS	Number of iterations for execution	10	*Execution time is printed for each iteration*
DT	Time step of each iteration	0.05	