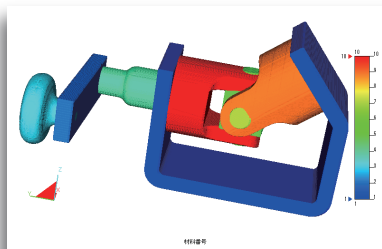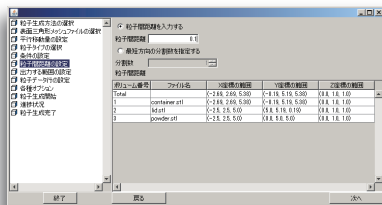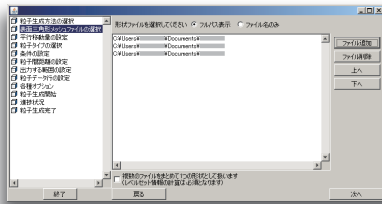# Meshman_ParticleGen_HPC Ver.2.0

*"Achieved over **800** million particles !"*

High speed generation of lattice models from STL files
for particle method, finite difference method and voxel method

Product Features

■ Highly reliable algorithm for particle generation.

Data can be generated even a model has many cavities inside.

■ Three particle layers can be generated for inside/ outside of a geometry boundary.

・ Generation examples

Example of outside layer: Modeling of fluid container for fluid analysis
Example of inside layer: Modeling of a rigid body as a shell to reduce data

■ Model generation is possible from multiple parts.

Duplicated particles on volume interface can be automatically deleted.

■ Generation of partial particle model within specified bounding box possible.

■ Generation of particle model translated from the original location possible.

Inter-volume positions are adjustable for multiple volumes.

■ For each particle, distance and normal vector to given geometry boundary can be calculated.

Functions

■ Lattice spacing can be specified directly or by the number of partitions of the bounding box.

■ The three modes of external lining, internal lining and filling of geometry boundary are provided for particle generation.

■ Models can be generated from multiple parts

■ Partial particle model can be generated within a specified bounding box.

■ Data with boundary conditions and material properties specified for each volume can be generated.

Data Formats

■ Generate particle models from STL files or surface patch (ADVENTURE's .pch) .

■ Generate particle models as Insight's format .par.

■ Generate customizable generic particle solver models as .dat.

Operational Environment

Windows Vista , Windows 7, Windows 8
32/64bit for each OS (64bit recommended)

＜Performance example＞

■ Machine
- C P U   Intel Core i7 870 2.93GHz
- Memory   DDR3-SDRAM PC10600 16GB
- Graphic   NVIDIA GeForce GTX 580 3GB
- H D D   1TB (SATA 7200rpm)

■ Number of particles : 6.2million approx.
Processing time : 1minute approx.
Memory used : 400MBytes approx.

■ Number of particles : 150million approx.
Processing time : 25minutes approx.
Memory used : 8GBytes