Appendix L

SYSTEMA-4.5.0

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Abstract

Model & meshing scripted access

SYSTEMA 4.5.0 allows the automation of all the model & meshing commands, such as geometry creation and modification, thermal properties, all the meshes parameters, through a Python script. This powerful feature is very useful to automatically modify the geometry (for symmetries or homotheties, for instance), to create reduced model, or to ease model creation by using variables, loops or logical instructions. It also facilitates all interfaces with external model format.

SYSTEMA is shipped with a library of scripted functions to help the user to easily reach the full potential of this new functionality. Basic modules are provided, such as model tree scan; examples are also given and will be demonstrated: surface activity automated change, creation of a parameterized honeycomb structure, meshing reduction...

3D improvements

The SYSTEMA 3D engine is both more realistic and more precise: it proposes now a real size solar system. It also provides new tools to help the understanding of the 3D scene and to visualize the different orientations of the satellite shapes. Moreover, the quality of the rendering has been upgraded, improving dramatically the videos generated by SYSTEMA.

Mission definition improvements

One of our ongoing development goals is to ease the creation of a mission. The mission module has been revamped around a new timeline widget that presents to the user all time data in a very intuitive way. With this tool, it will be very easy to synchronize trajectories, kinematics phases, mission events...











