

ANSA BATCH MESHING FOR CAD BASED VEHICLE CONCEPT MODELING

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KEYWORDS –

ABSTRACT – Batch meshing has a high importance in the simulation driven development process. Vehicle variants that are generated based on CAD geometry have to be evaluated with different simulation disciplines and meshes have to be generated for that purpose. Batch meshing allows a high level of process automation and therefore limits the time consuming manual generation of finite element meshes. The capabilities of ANSA to realize a large number of connections using the connection manager complete a powerful automatic meshing procedure.

The Fast Concept Modeler (FCM) is a CATIA V5 integrated software solution for the fast generation of vehicle concept models. The entire process during the concept phase is covered using a uniform geometric model representation from the early phase through to the analytical cycles to the start of production design. In the different phases, a finite element model can be extracted using a close link to the ANSA batch meshing procedure. The attributes for connections can already be defined in the 3D CAD model and are transferred to ANSA using a well-defined interface.

The combination of ANSA and Fast Concept Modeler enables an efficient engineering process using CAD based concept geometries in combination with powerful meshing and realization of different connection types. During the presentation the workflow will be described and is illustrated based on examples.