Brief manual for GRIDer-v2.1

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Step1: Load straight mesh (1st order, Figure 1)

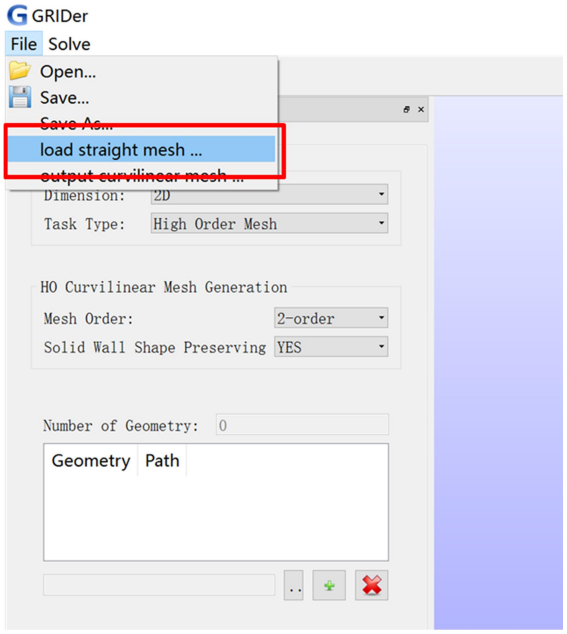

Figure 1 load straight mesh

Step2: Load cgns mesh file (Figure 2).

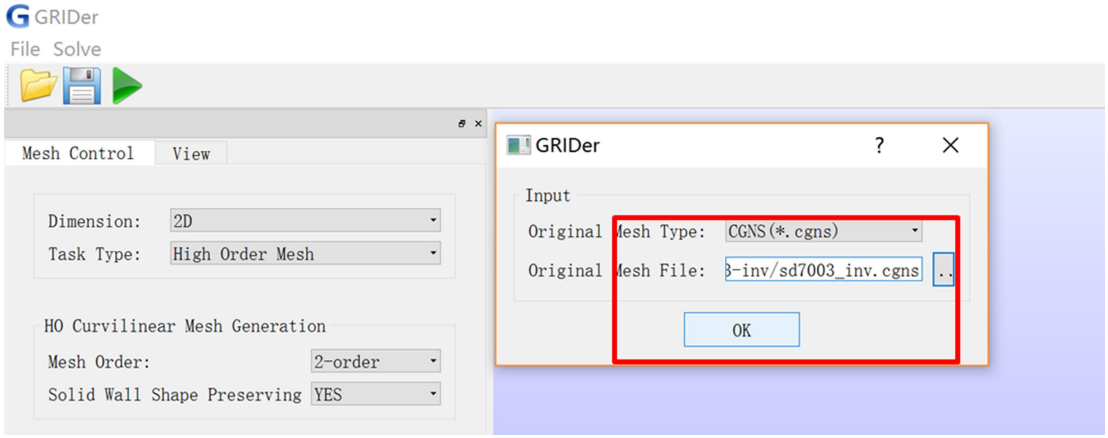

Figure 2 load cgns file

There are three demos in setup directory. You can find cgns mesh files in demos.

- demo/gui-m6-inv: M6 wing, all tetrahedron cells, 3D case.
- demo/gui-onera-m6-hybrid: M6 wing, tetrahedron/prism/pyramid cells hybrid, 3D case.
- demo/gui-sd7003-inv: sd7003 airfoil, all triangle cells, 2D case.
- demo/gui-sd7003-hybrid: sd7003 airfoil, triangle/quadrangle cells hybrid mesh, 2D case.

- demo/gui-sphere-inv: Sphere, all tetrahedron cells, 3D case.
- demo/gui-sphere-hybrid: Sphere, tetrahedron/prism/pyramid cells hybrid, 3D case.

Step3: Load igs/iges geometry file (Figure 3). The geometry file is the one that used to generate the 1st order linear mesh, and all of the solid wall points of the linear mesh must be on the geometry. Most important, the geometry file should be clean as much as possible.

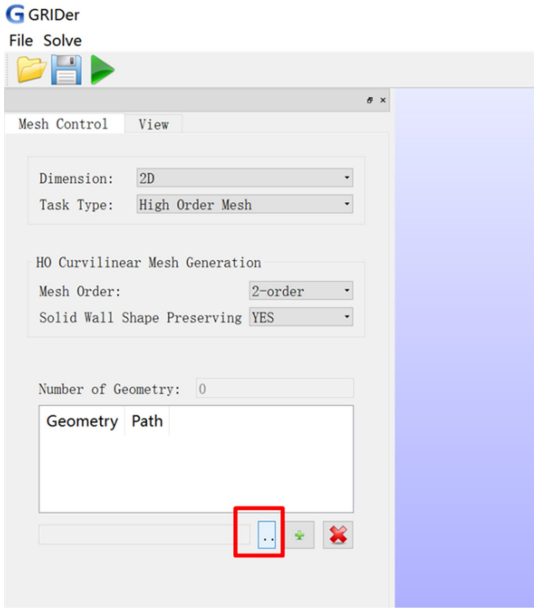

Figure 3 load igs/iges geometry file

Step4: Add the geometry file (Figure 4).

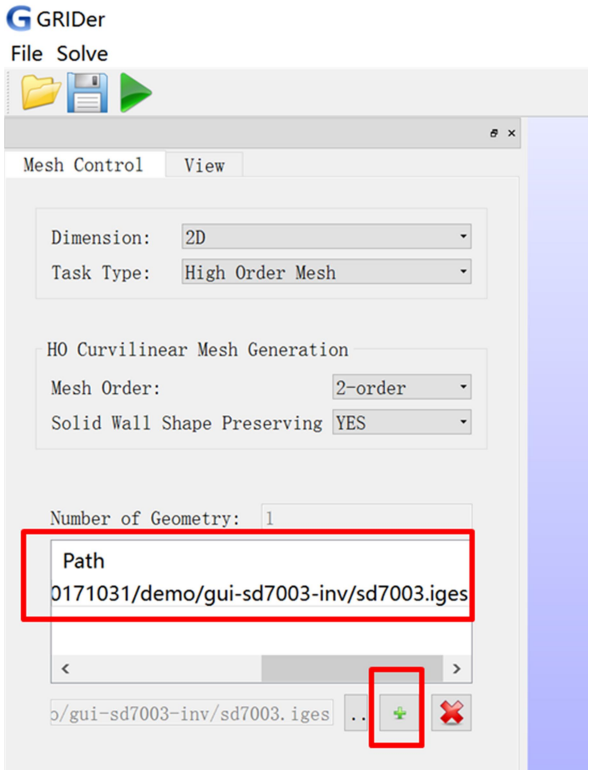

Figure 4 add igs/iges geometry file

Step5: Run curvilinear mesh generation (Figure 5). Note that, only 2d curvilinear mesh visualization is available so far, and the 3d visualization is under construction.

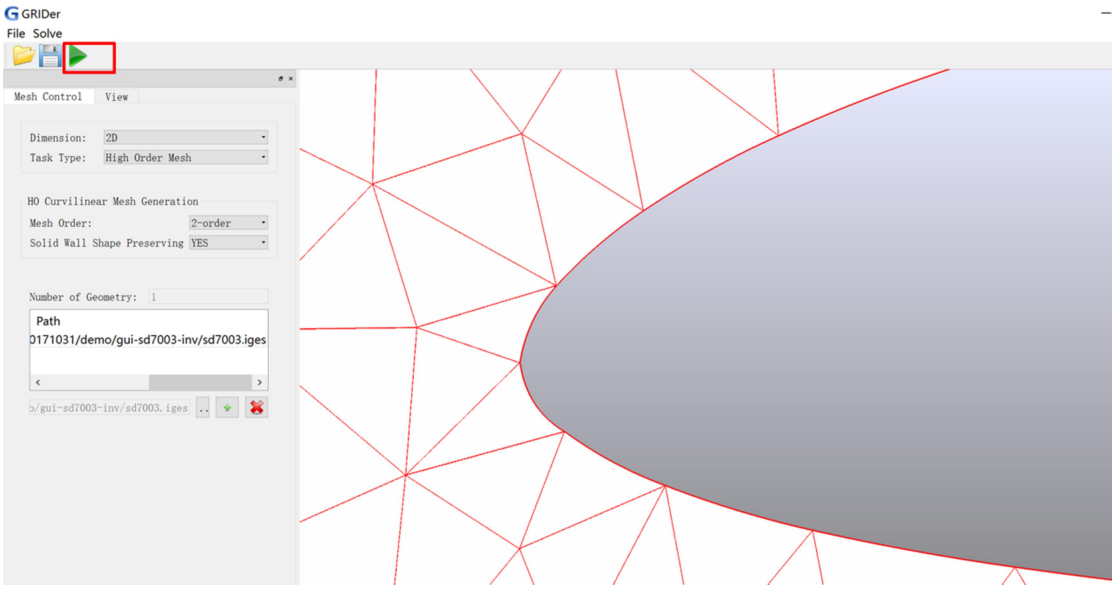

Figure 5 run curvilinear mesh generation

Step6: write curvilinear mesh to file (Figure 6). The GMSH format of 2nd order mesh is dumped.

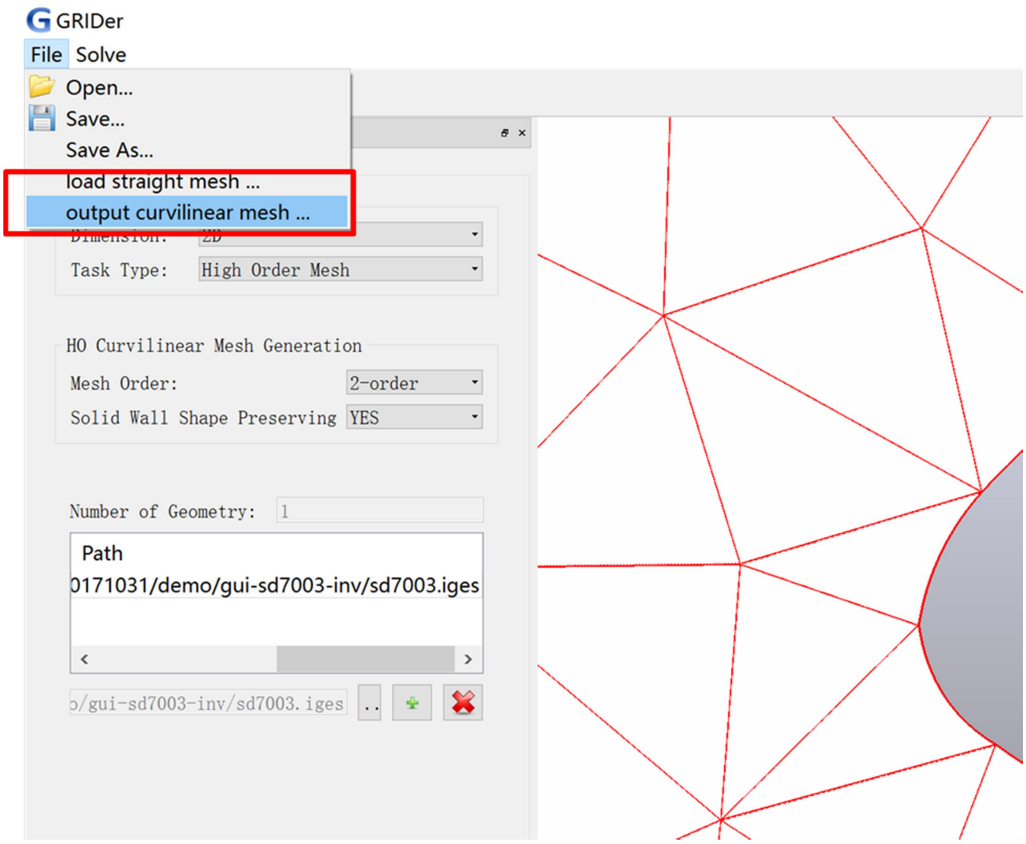

Figure 6 write curvilinear mesh to file