研发、设计、测试

采用journal file技术在GAMBIT中实现面链接的自动化

黄章峰[1],孙 超[2]

1.天津大学 力学系，天津 300072
2.天津市翔宇科技贸易学校，天津 300151

摘要　　由于周期性边界条件和cooper算法划分网格的需要，在GAMBIT中需要做面链接。为了在用户界面(GUI)中减少设计人员做面链接时的大量手工劳动和重复劳动，为了在文本界面(TUI)中实现面链接自动化，采用自上而下的软件设计方法和journal file技术，设计了一个面链接自动化的模型。利用该模型对43个叶片的前向多翼离心风扇的面链接进行了测试。结果表明，在用户界面(GUI)中鼠标点击次数从187次减少到7次，大大地提高了设计效率；而在文本界面(TUI)中，实现了自动化面链接。该测试在GAMBIT2.3.16通过，测试结果表明该模型可行且有效。

关键词　　面链接　自动化　自上而下　GAMBIT　journal file

分类号

Realization of automated face-mesh linking in GAMBIT based on journal file technique

HUANG Zhang-feng[1],SUN Chao[2]

1.Department of Mechanics，Tianjin University，Tianjin 300072，China
2.Tianjin Xiangyu Science & Technology Trading School，Tianjin 300151，China

Abstract

  Face-mesh linking is required for periodic boundary condition and cooper meshing scheme in GAMBIT.In order to reduce the massive manual and repeated labor to create a mesh hard-link in Graphical User Interface(GUI)，and for the purpose of the realization of automated face-mesh linking in Text User Interface(TUI)，an automated face　mesh linking model is designed by using Top-Down software design method and journal file technique.Face-mesh linking on a forward-curved multi-blade centrifugal fan with 43 blades is tested by using this model in GAMBIT 2.3.16.Results show that the times of mouse click is reduced from 187 to 7 in GUI，indicating that it dramatically increases the design efficiency，and automated face-mesh linking is realized in TUI，confirming that this model is feasible and effective.

Key words　　face-mesh linking　automated　Top-Down　GAMBIT　journal file

通讯作者　黄章峰 hzf@tju.edu.cn