Verification of a FSEC Racing Car Cooling System Model㊀

Huang Hai, Zhen Junwei
Guangzhou City University of Technology

Abstract: This study verifies a FSEC racing car cooling system model by using Fluent software. To minimize unnecessary calculations, a porous medium is used to substitute the cold-type fins due to the periodicity of the cold-type fins. In the overall system simulation, the turbulence model is proved by using the Reynolds number for the overall calculation to ensure realism. To discuss the necessity of installing cooling fans in the cooling system, a wind tunnel simulation of the cold vent is carried out in this paper. And the model is verified by comparing the bench test and the simulation results to judge the correctness of the simulation results.

Key words: simulation, heat dissipation performance, porous medium, model verification

㊀ 本书仅收录摘要，全文刊载在《2023 中国汽车工程学会年会论文集精选（*Proceedings of China SAE Congress 2023: Selected Papers*）》（电子出版物，由德国施普林格出版社出版）。