

Validation of FLACS for gas dispersion in urban against experimental data

강동주, 전경우, 한종훈†

서울대학교

(chhan@snu.ac.kr†)

Modeling gas dispersion is complex phenomenon and cannot measure many cases in experiment, so computation fluid dynamics (CFD) was stimulated to predict dispersion modeling results. Most of leaking gas that was aimed to predict is toxic and flammable. Therefore, to simulate this complex model, many other modeling methods are developed, such as Model Evaluation Protocol for LNG vapor dispersion models (MEP). However, recent research indicates that some existing dispersion models used for gas leakage at the center of urban city, where many obstructions are around, are inaccurate because of wind tunnel with pool spreading, atmosphere condition, and complex terrain.

In this research, FLACS, one of the CFD simulators, is used to validate gas dispersion against experimental data. FLACS is 3D simulator that can be used in obstructed cases and large-scale wind tunnel models. FLACS simulation results are compared with experimental data, and their differences are analyzed.