



Modeling of Heat and Moisture Transfer Across Concrete Surface Boundary Under Wind and Radiation Effects

This research aims to incorporate the effects of solar radiation and wind on the heat and moisture transfer on concrete surfaces into the thermodynamic-based computational system. The heat transfer through shortwave radiation, longwave radiation, conduction and convection by wind are coupled with heat transfer model. Convective effects of wind are also considered in the moisture transfer on the concrete surface. The proposed heat transfer model is verified with experiment data. The enhanced heat and moisture transfer model can simulate concrete responses in an actual environment.

