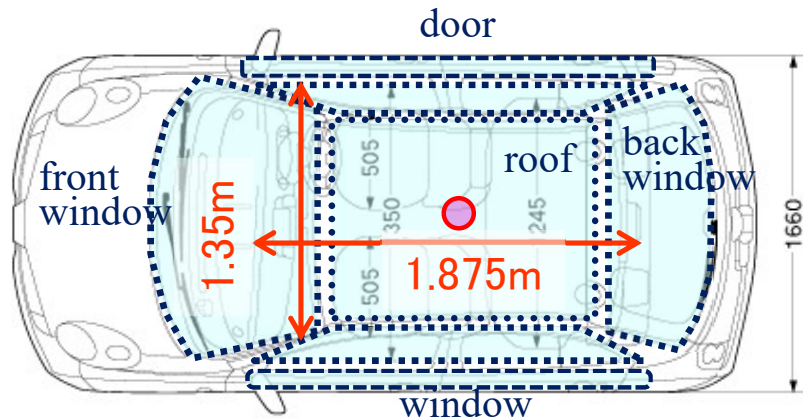


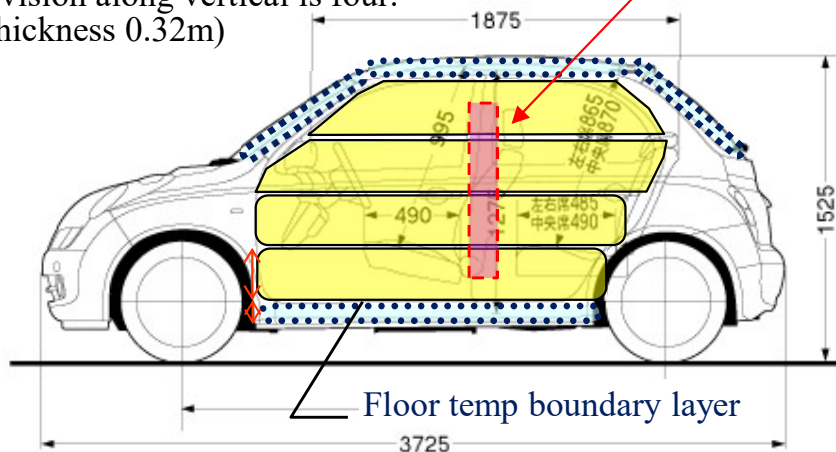
Outline of the developed engineering model for vertical temperature distribution

Temperature boundary layer (thickness 0.1m)

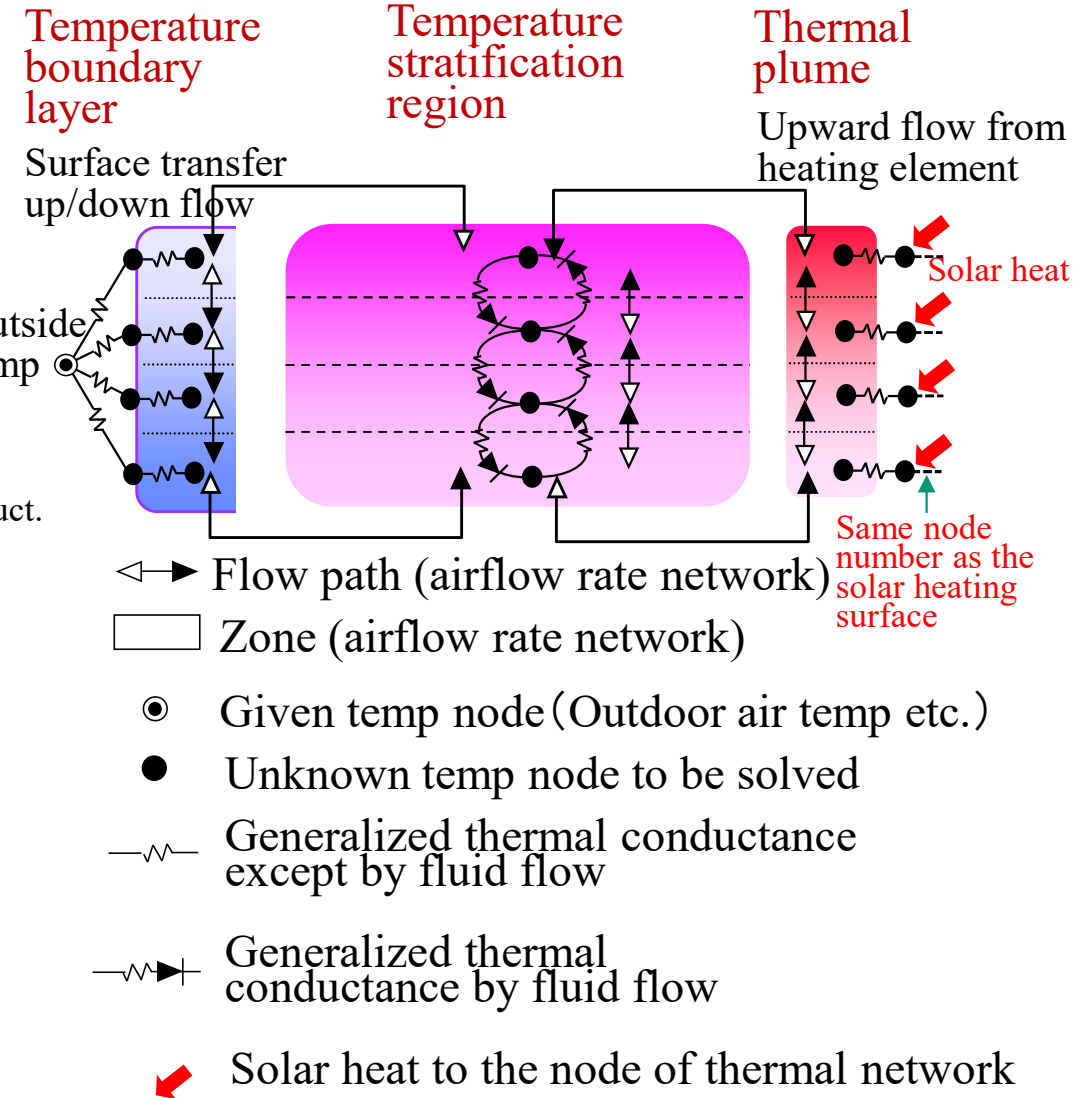


Thermal Plume: Cylindrical duct.
(Diameter 0.2m)

Temperature stratification region,
division along vertical is four.
(thickness 0.32m)



Thermal network model for temperature stratification



Although the natural convection state and the forced convection state are models with the same structure as above, during forced convection, increase the mixing convection conductance between temperature stratified zones.