UNIVERSITY OF
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Department of Waves in Solids

Air flow in the urban area of Hsinchu city

REPORT FROM THE STUDENT INTERNSHIP

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Acknowledgements

Acknowledgements for supervisors and the NARLabs.

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c_i	.....	Molar concentration of i-th molar specie
c_{T}	.....	Total molar concentration
Co	.....	Courant number
d	.....	Diameter
D_i	.....	Molar diffusivity of i-th molar specie
D_i^{eff}	.....	Effective molar diffusivity of i-th molar specie
$\boldsymbol{d}_{\mathrm{PN}}$	.....	Vector connecting centroids of P and N
f	.....	Face of the cell
$\boldsymbol{f}_b$	.....	Body forces acting on cell
$\boldsymbol{g}$	.....	Gravitational acceleration
h	.....	Specific enthalpy
I	.....	Time interval
I^h	.....	Discretized time interval
m	.....	Number of discretized FV cells
M	.....	Molar mass
n	.....	Number of species
$\boldsymbol{n}$	.....	Outer normal vector
$\boldsymbol{n}_f$	.....	Outer normal vector of the face f
p	.....	Pressure
p_{ref}	.....	Reference pressure
$\tilde{p}$	.....	Kinematic pressure
Q	.....	Computational domain
r_i	.....	Reaction source of the i-th molar specie
R^{g}	.....	Universal gas constant
Re	.....	Reynolds number
s_ϕ	.....	Source of the ϕ
$\boldsymbol{S}_f$	.....	Face area vector
t	.....	Time
T	.....	Temperature
T_{ref}	.....	Reference temperature
$\boldsymbol{u} = (u, v, w)$	.....	Velocity
y_i	.....	Molar fraction of the i-molar specie
α	.....	Heat transfer coefficient
ε	.....	Porosity
Γ_ϕ	.....	Diffusivity of ϕ
κ	.....	Permeability
λ	.....	Heat conductivity
μ	.....	Dynamic viscosity
ν	.....	Kinematic viscosity
Ω	.....	Domain
Ω^h	.....	Discretized domain
Ω_P^h	.....	Cell P
$\delta\Omega_i^h$	.....	Volume of the cell
$\partial\Omega$	.....	Domain boundary
ϕ	.....	Intensive tensorial quantity
ϕ_P	.....	Value of ϕ in the cell centroid of cell P

ϕ_f	.....	Value of ϕ in the face centroid of face f
$\mathbf{\Phi}_\phi$	.....	Flux intensity of ϕ
$\mathbf{\Phi}_{\phi,\text{conv}}$	.....	Convective flux intensity of ϕ
$\mathbf{\Phi}_{\phi,\text{diff}}$	.....	Diffusive flux intensity of ϕ
ρ	.....	Fluid mass density
Σ	.....	Total stress tensor
τ	.....	Tortuosity
$\boldsymbol{\tau}$	.....	Viscous stress tensor
∇	.....	Nabla differential operator

Potencial appendix here.