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NOMENCLATURE

a_c centripetal acceleration, [m/s^2]

AFCE	adiabatic film cooling effectiveness
C_p	specific heat, [$J/kg.K$]
D	slot diameter, [m]
DR	density ratio of coolant to mainstream gas, [-]
EWf	enhanced wall function
FCE	film cooling effectiveness
K_R	thermal conductivity ratio, [-]
k	turbulence kinetic energy, [m^2/s^2]
k_c	thermal conductivity, [$W/m.K$]
L	mainstream entrances length, [m]
M	blowing ratio, [-]
P	pressure, [kPa]
Pr	Prandtl number, [-]
RSM	response surface method
RNG	Reynolds normalization group
RPM	revolution per minutes
SST	Menter's shear stress transport
T	temperature, [K]
V	velocity, [m/s]
VR	velocity ratio of coolant to mainstream gas, [-]
x	distance in the mainstream gas flow direction, [m]
y	distance in the hole normal direction, [m]

Greek symbols

α	injection angle. [deg]
ε	turbulence dissipation rate, [$J/kg.s$]
η	film cooling effectiveness, [-]
μ	dynamic viscosity, [$kg/m.s$]
ρ	density, [kg/m^3]
ω	turbulence specific dissipation rate, [$1/s$]

Subscripts

ad	adiabatic
av	average
c	coolant jet
h	mainstream gas
w	wall
t	turbulent