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NOMENCLATURE

A_r	aspect ratio of the plate
b	half plate-to-plate spacing
B	dimensionless half plate-to-plate spacing
H	height of the plate
H_{spot}	Location of hot spot in solid
K	thermal conductivity
ℓ_o	distance of the outflow boundary
L_o	dimensionless distance of the outflow boundary
N_{cc}	conduction-convection parameter
Nu_H	average Nusselt number
Pr	Prandtl number
$q'''(x)$	volumetric energy generation function
$q'''_{\max}$	maximum volumetric energy generation
$Q(X)$	dimensionless volumetric energy generation
Q_{max}	maximum volumetric energy generation
Q_t	total energy generation parameter
Re_H	flow Reynolds number
T	temperature
T_o	maximum allowable temperature in plate
u	velocity component in axial direction
U	dimensionless velocity component in axial
U_∞	free stream velocity
v	velocity component in transverse direction
V	dimensionless velocity component in transverserse
x	axial co-ordinate
X	dimensionless axial co-ordinate
y	transverse co-ordinate
Y	dimensionless transverse co-ordinate
W	half of the thickness of the plate

Greek symbols

θ	dimensionless temperature
ν	kinematic viscosity of the coolant
Ψ	dimensionless stream function
Ω	dimensionless vorticity

Subscripts

f	fluid domain
opt	optimum
s	solid domain
sf	solid-fluid interface
∞	free stream
$spot$	hotspots