LIST OF ABBREVIATIONS AND NOMENCLATURE

ABBREVIATIONS

PTC    Parabolic Trough Collector
CPC    Compound Parabolic Collector
TESS   Thermal Energy Storage System
CSP    Concentrated Solar Power
HTF    Heat Transfer Fluid
SHIP   Solar Heat for Industrial Process
NaNO₃  Sodium Nitrate
KNO₃   Potassium Nitrate

NOMENCLATURE

W      Aperture
L      Collector length
C      Concentration ratio
Nu     Nusselt number
S      Incident solar flux absorbed in the absorber plate, W/m².
D_{hyd} Hydraulic diameter of ellipse, m.
I_{br}  Intensity of beam radiation, W/m².
T_{in}  &  T_{out} Inlet & Outlet temperature in absorber tube, °C.
U      Total heat loss coefficient, W/m²°C.
F      Collector efficiency factor
θ      Acceptance angle
m      mass flow rate of HTF through absorber tube.