

File Help

Setup

Results

ParametersParameters - RocketsMixture compositionCustom Figures

Reactants

30011.152322235.26.9741.0361.38728.74347

Temperature [K]Pressure [bar]Density [kg/m3]Enthalpy [kJ/kg]Internal energy [kJ/kg]Entropy [kJ/(kg K)]Specific heat cp [kJ/(kg K)]Adiabatic index [-]Mean Molecular Weight [g/mol]Sound speed [m/s]

Products

177710.1985322-181.88.9021.3541.26629.32798.6

9. thermodynamic properties

10. errors

Epsilon (moles)7.1054e-15

Epsilon (method)4.9708e-05

4. tree

▼ Problem Type:HP

▼ Reactants:Acetylene + Air

▼ List Products:Soot formation Extended

Case 1Case 2Case 3Case 4Case 5

5. case selected

Solving HP problem... Done! check tab "Results"

Elapsed time is 3.92921 seconds

7. report window

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6. command window

8. lamp

(a)

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Phi

0.5

Reactants

SpeciesN° molesMole fraction

N218.80950.7582

O25.00000.2015

C2H2_acetylene1.00000.0403

Products

SpeciesN° molesMole fraction

N21.8777e+017.7233e-01

O22.4657e+001.0142e-01

CO21.9990e+008.2220e-02

H2O9.9539e-014.0941e-02

NO6.4191e-022.6402e-03

OH8.9240e-033.6705e-04

CO1.0109e-034.1579e-05

O7.5408e-043.1016e-05

H21.3509e-045.5563e-06

NO21.1847e-044.8727e-06

H1.6873e-056.9399e-07

HO29.6753e-063.9795e-07

N2O3.6756e-061.5118e-07

H2O22.5896e-071.0651e-08

HNO4.9076e-082.0185e-09

▼ Problem Type:HP

▼ Reactants:Acetylene + Air

▼ List Products:Soot formation Extended

Case 1Case 2Case 3Case 4Case 5

Solving HP problem... Done! check tab "Results"

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(b)

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▼ Mixture

strR_FuelstrR_OxidizerstrRstrP

CP_Tgamma_serror_moleserror_moles_ionserror_phiphi

Variable y

pTNNhf

MaximizePlotClear

Temperature [K]

2800260024002200200018001600

0.511.522.533.54

Equivalence ratio

▼ Problem Type:HP

▼ Reactants:Acetylene + Air

▼ List Products:Soot formation Extended

Case 1Case 2Case 3Case 4Case 5

Solving HP problem... Done! check tab "Results"

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(c)