NTMT

Computes the fictitious thermal loads for a unidirectional lamina

Inputs

tplies - Thickness of each ply
qbarplies - Transformed reduced stiffness matrix for each ply
deltat - Temperature change
alphaplies - Coefficients of thermal expansion for each ply
nplies - Thickness of each ply

Outputs

[NT] - Fictitious thermal forces acting on laminate
[MT] - Fictitious thermal moments acting on laminate

Calling the Function

```
[NT,MT]=NTMT(qbarplies,deltat,alphaplies,nplies,tplies
```

Testing File

Click here to see a testing file for using the function NTMT

Example

```
Inputs:

Number of plies: 3


For Ply: 1
   Ply Thickness: 0.005

   Transformed Reduced Stiffness Matrix:
_____________________________________________
    26370000      420200           0
      420200     1501000           0
           0           0     1040000


For Ply: 2
   Ply Thickness: 0.005

   Transformed Reduced Stiffness Matrix:
_____________________________________________
     3430000     4708000     2909000
     4708000    15860000     7860000
     2909000     7860000     5328000
```

```
For Ply: 3
   Ply Thickness: 0.005

   Transformed Reduced Stiffness Matrix:
_____________________________________________
     3430000     4708000    -2909000
     4708000    15860000    -7860000
    -2909000    -7860000     5328000


Coefficients of Thermal Expansion for each ply:
_____________________________________________________
   1.0e-04 *

    0.0001    0.0938    0.0938
    0.1250    0.0313    0.0313
         0   -0.1082    0.1082

Outputs:

Fictitious Thermal Forces:
_____________________________
  -27.3166
  -27.3159
         0

Fictitious Thermal Moments:
_____________________________
   -0.0373
    0.0373
   -0.0215
```

Description

Outputs the fictitious thermal forces and moments in vector form:
[NxT;NyT;NxyT] and [MxT;MyT;MxyT]