stresslocallaminate

Computes the local stresses at the top, middle, and bottom of each laminate

Inputs

stressglobalplies - Global stresses
- **sx** - Global longitudinal stress
- **sy** - Global transverse stress
- **sxy** - Global in-plane stress

angleplies - Angle of each ply in degrees

nplies - Thickness of each ply

Outputs

[stresslocalplies] - Local stresses
- **s1** - Local longitudinal stress
- **s2** - Local transverse stress
- **s12** - Local in-plane stress

Calling the Function

```
[stresslocalplies]=stresslocallaminate(stressglobalplies,angleplies,
                                       nplies)
```

Testing File

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

Example

Inputs:

Number of plies: 3

For Ply: 1

Global Stress

Top	
Sx	33510
Sx	61880
Txy	-27500
Middle	
Sx	44640
Sx	53590
Txy	-20150
Bottom	
Sx	55770
Sx	45310
Txy	-12800

For Ply: 2

Global Stress

Top	
Sx	69300
Sx	73910
Txy	33810
Middle	
Sx	106300
Sx	77470
Txy	59030
Bottom	
Sx	143400
Sx	81020
Txy	84260

For Ply: 3

Global Stress

Top	
Sx	123500
Sx	156300
Txy	-118700
Middle	
Sx	49030
Sx	68940
Txy	-38880
Bottom	
Sx	-25470
Sx	-18400
Txy	40910

Outputs:

For Ply: 1

Local Stresses

Top	
S1	33510
S2	61880
T12	-27500
Middle	
S1	44640
S2	53590
T12	-20150
Bottom	
S1	55770
S2	45310
T12	-12800

For Ply: 2

Local Stresses

Top	
S1	99732.8
S2	43477.2
T12	18901.2
Middle	
S1	150214
S2	33556
T12	17031.2
Bottom	
S1	200776
S2	23643.7
T12	15118.7

```
For Ply: 3

     Local Stresses
_____________________________________________
    Top
       S1    | 258600
       S2    | 21200
       T12   | -16400
    Middle
       S1    | 97865
       S2    | 20105
       T12   | -9955
    Bottom
       S1    | -62845
       S2    | 18975
       T12   | -3535
```

Description

Outputs the local stresses at the top, middle, and bottom of each laminate