AsBsDs

Computes extensional, coupling, bending, normalized extensional, normalized coupling, and normalized bending coupling matrices

Inputs

tplies - Thickness of each ply
[A] - Extensional stiffness matrix
[B] - Coupling stiffness matrix
[D] - Bending stiffness matrix

Outputs

[As] - Extensional compliance matrix
[Bs] - Coupling compliance matrix
[Ds] - Bending compliance matrix
[Asn] - Normalized extensional compliance matrix
[Bsn] - Normalized Coupling compliance matrix
[Dsn] - Normalized Bending compliance matrix

Calling the Function

```
[As,Bs,Ds,Asn,Bsn,Dsn]=AsBsDs(A,B,D,tplies)
```

Testing File

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

Example

```
Inputs:

For Ply: 1
   Ply Thickness: 0.000125

For Ply: 2
   Ply Thickness: 0.000125

For Ply: 3
   Ply Thickness: 0.000125

For Ply: 4
   Ply Thickness: 0.000125
```

Extensional Stiffness Matrix:

```
    28330000    21160000           0
    21160000    28830000           0
           0           0    23300000
```

Coupling Stiffness Matrix:

```
     0     0     0
     0     0     0
     0     0     0
```

Bending Stiffness Matrix:

```
    0.5902    0.4408    0.3349
    0.4408    0.5902    0.3349
    0.3349    0.3349    0.4853
```

Outputs:

Extensionsl Compliance Matrix:

```
   1.0e-07 *

    0.7813   -0.5734         0
   -0.5734    0.7677         0
         0         0    0.4292
```

Coupling Compliance Matrix:

```
     0     0     0
     0     0     0
     0     0     0
```

Bending Compliance Matrix:

```
    4.2258   -2.4676   -1.2133
   -2.4676    4.2258   -1.2133
   -1.2133   -1.2133    3.7351
```

Normalized Extensional Compliance Matrix:

```
   1.0e-10 *

    0.3906   -0.2867         0
   -0.2867    0.3839         0
         0         0    0.2146
```

Normalized Coupling Compliance Matrix:

```
     0     0     0
     0     0     0
     0     0     0
```

Normalized Bending Compliance Matrix:

1.0e-10 *

0.4402	-0.2570	-0.1264
-0.2570	0.4402	-0.1264
-0.1264	-0.1264	0.3891

Description

Outputs the extensional, coupling, and bending matrices as well as their normalized counterparts