```
%%                                          TEST 1
%                               PEM rigid backing

d=5e-2;                         % thickness
phi=0.95;                       % porosity
alpha=1.100;                    % tortuosity
LCV=1.50E-05;                   % Viscous Char. Length
LCT=4.500E-05;                  % Thermal Char. Length
rho_1=126.000;                  % density

% material rotation ( pi/3 , 4*pi/9 , pi/4]
% incidence [23°,62°]

sig=[10000 0 0; 0 20000 0; 0 0 40000];   %flow res tensor unrotated

C=(1+0.05*1j)*1e5.*[ 13.7+0.13j   7.10+0.04j  6.7+0.04j  0   0   0;
         7.10+0.04j   13.7+0.13j  6.7+0.04j  0   0   0;
          6.7+0.04j    6.7+0.04j  126+0.73j    0    0     0;
             0          0         0      5.8+0.73j    0     0;
             0          0         0          0  5.8+0.73j    0;
             0          0         0          0    0       3.3+0.05j];
```

```
%%                                          TEST 2
%                               PEM TL

d=5e-2;                         % thickness
phi=0.95;                       % porosity
alpha=1.100;                    % tortuosity
LCV=1.50E-05;                   % Viscous Char. Length
LCT=4.500E-05;                  % Thermal Char. Length
rho_1=126.000;                  % density

% material rotation ( pi/3 , 4*pi/9 , pi/4]
% incidence [23°,62°]

sig=[10000 0 0; 0 20000 0; 0 0 40000];   %flow res tensor unrotated

C=(1+0.05*1j)*1e5.*[ 13.7+0.13j   7.10+0.04j  6.7+0.04j  0   0   0;
         7.10+0.04j   13.7+0.13j  6.7+0.04j  0   0   0;
          6.7+0.04j    6.7+0.04j  126+0.73j    0    0     0;
             0          0         0      5.8+0.73j    0     0;
             0          0         0          0  5.8+0.73j    0;
             0          0         0          0    0       3.3+0.05j];
```

```
%%                                          TEST 3
%                               JAP TL normal inc
% incidence [0°,0°]

% Aluminum sheets
d=1e-3;
```

rho=2700;
E=7e10;
poisson=0.33;
eta=0.01;

% PEM core
% material rotation **[0 , pi/4 , 0]**
d=88e-2; % thickness
% see .m file attached

%% TEST 4
% JAP TL oblique inc
% incidence [45°,50°]

% Aluminum sheets
d=1e-3;
rho=2700;
E=7e10;
poisson=0.33;
eta=0.01;

% PEM core
% material rotation **[0 , pi/4 , 0]**
d=88e-2; % thickness
% see .m file attached

%% TEST 5
% JAP TL oblique inc
% incidence [45°,50°]

% Aluminum sheets
d=1e-3;
rho=2700;
E=7e10;
poisson=0.33;
eta=0.01;

% PEM core
% material rotation **[0 , 3*pi/4 , 0]**
d=88e-2; % thickness
% see .m file attached

%% TEST 6

% JAP TL oblique inc

% incidence [45°,50°]

% PEM core
% material rotation **[0 , pi , 3*pi/2]**

%% TEST 7
% JAP TL oblique inc

% incidence [45°,50°]

% PEM core
% material rotation **[-pi/4 , pi/2 , 3*pi/4]**

%% TEST 8
% POROUS WITH DOBLE CORE, 88e-3 m thickness each

% incidence [12°,78°]
% material rotation CORE 1 **[0 , pi/2 , 3*pi/4]**
% material rotation CORE 2 **[3*pi/2 , pi/4 , 0]**

%% TEST 9
% POROUS WITH DOBLE CORE, 88e-3 m thickness each

% incidence [23°,139°]
% material rotation CORE 1 **[pi/8 , pi/4 , pi/4]**
% material rotation CORE 2 **[pi , -pi , pi]**