```
clf
% set the limits and select a view

ax = axes('XLim',[-50 50],'YLim',[-50 50],'ZLim',[10 60]);
view(3);
grid on;
axis equal
xlabel('X');
ylabel('Y');
zlabel('Z');

X = solution.phase.state(:,1);
Y = solution.phase.state(:,2);
Z = solution.phase.state(:,3);

plot3(X,Y,Z,'r');
grid on;
hold on

xlabel('X');
ylabel('Y');
zlabel('Z');

[xc, yc, zc] = cylinder([0.1 0.0]); %cone
[x,   y,  z] = cylinder([0.1 0.1]);

s = 0.2;
h(1) = surface( s*2.5*xc,              s*2.5*zc,          -s*2.5*yc, 'Facecolor', 'red');
h(2) = surface( s*5*z,                 s*2.5*y,           s*1.25*x, 'Facecolor', 'blue');
h(3) = surface(-s*5*z,                 s*2.5*y,           s*1.25*x, 'Facecolor',↙
'yellow');
h(4) = surface( s*2.5*x,              -s*3.75*z,          s*1.25*y, 'Facecolor', 'red');
h(5) = surface( s*2.5*xc,         (s*3.75*yc)-s*3.25,      s*2.5*z, 'Facecolor',↙
'green');

% % h(1) = surface( 2.5*xc,               2.5*zc,          -2.5*yc, 'Facecolor', 'red');
% % h(2) = surface( 5*z,                  2.5*y,           1.25*x, 'Facecolor', 'blue');
% % h(3) = surface(-5*z,                  2.5*y,           1.25*x, 'Facecolor', 'yellow');
% % h(4) = surface( 2.5*x,               -3.75*z,          1.25*y, 'Facecolor', 'red');
% % h(5) = surface( 2.5*xc,          (3.75*yc)-3.25,       2.5*z, 'Facecolor', 'green');


t = hgtransform('parent', ax);
set(h,'parent',t)

% Set the renderer to OpenGL and update the display
set(gcf,'Renderer','opengl')

drawnow
c = pi./180;
X = solution.phase.state(:,1);
```

```
Y = solution.phase.state(:,2);
Z = solution.phase.state(:,3);



azi = solution.phase.state(:,6);
rol = solution.phase.control(:,2);
pit = solution.phase.state(:,5);

% for t = 1:length(azi)
%
%     [azi(t), =
%
% end


for i = 1:length(Y)

    trans = makehgtform('translate',[X(i) Y(i) Z(i)]);
    rotz  = makehgtform('zrotate',-azi(i));
    roty  = makehgtform('yrotate',rol(i));
    rotx  = makehgtform('xrotate',pit(i));
    set(t, 'Matrix', trans*rotz);
%     set(t, 'Matrix', trans);

    for r = 0.1:0.25*Z(i)/100:0.25*Z(i)
        viscircles([X(i),Y(i)],r,'LineWidth',0.005,'EdgeColor','y');
        hold on
    end

%     viscircles([lon(i),lat(i)],0.25*alt(i));
%     hold on

% pause

end
```