F16_Init.m

```
%% — Parameters of Hose and Drogue Model
load hose_parameter4dock.mat
%% — Receiver Parameters (F-16)
% aircraft model parameters
fi_flag = 1; % '1' for the high fidelity model;'0' for the low fidelity model
mass = 636.94; % aircraft mass (slugs),namely kg/(1bf*m/ft/N)
Inertia = [9496,0,-982.0;0,55814.0,0;-982.0,0,63100.0]; % inertia matrix
S_ref = 300.0; % Reference area (m)
b_ref = 30.0; % Reference span (m)
d_ref = 11.32; % Reference length or mean chord length (m)
% flight condition
altitude = 9843; % altitude (ft)
airSpeed = 393.72; % airSpeed (ft/s)
...
%% — Tanker Parameters (KC-135)
wingSpan = 40; % wingSpan (m)
tankerWeight = 8000; % generally set as the half of the max-load capacity (146000kg)
```

(a) F-16's parameters

Config.json

```
{
  "VisionSensors" : [
    {
      "SeqID" : 0, % index of the current sensor
      "TypeID" : 1, % RGB camera
      "TargetCopter" : 1, % The ID of the copter on which the sensor is mounted
      "TargetMountType" : 0, % relative coordinate of copter
      "DataWidth" : 1280, % The width of captured picture
      "DataHeight" : 720, % The height of captured picture
      "DataCheckFreq" : 30, % The updata frequency of checking data
      "SendProtocol" : [0,127,0,0,1,9999,0,0], % Transmission mode,IP address,port number
      "CameraFOV" : 90, % Field of view
      "SensorPosXYZ" : [4.7, 0.54, -1.45], % location of the sensor
      "SensorAngEular" : [0, 0, 0], % angles of the sensor
      "otherParams" : [0,0,0,0,0,0,0,0] % reserved
    },
    {
      ...  % The depth camera information
    }
    ]
}
```

(b) Sensor's configuration