general mission analysis tool

Simulating an Orbit (using script language)

GMAT Fundamentals
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Spacecraft

Create Spacecraft Sat

Spacecraft

```
Create Spacecraft Sat
Sat.DateFormat = UTCGregorian
Sat.Epoch = '22 Jul 2014 11:29:10.811'
```

Spacecraft

```
Create Spacecraft Sat

Sat.DateFormat = UTCGregorian

Sat.Epoch = '22 Jul 2014 11:29:10.811'

Sat.DisplayStateType = Keplerian

Sat.SMA = 83474.318

Sat.ECC = 0.89652

Sat.INC = 12.4606

Sat.RAAN = 292.8362

Sat.AOP = 218.9805

Sat.TA = 180
```

Propagator

```
Create ForceModel LowEarthProp_ForceModel




Create Propagator LowEarthProp
LowEarthProp.FM = LowEarthProp_ForceModel
```

Propagator

```
Create ForceModel LowEarthProp_ForceModel
LowEarthProp_ForceModel.CentralBody = Earth
LowEarthProp_ForceModel.PrimaryBodies = {Earth}
LowEarthProp_ForceModel.PointMasses = {Luna, Sun}
LowEarthProp_ForceModel.SRP = On
LowEarthProp_ForceModel.GravityField.Earth.Degree = 10
LowEarthProp_ForceModel.GravityField.Earth.Order = 10
LowEarthProp_ForceModel.Drag.AtmosphereModel =
    JacchiaRoberts


Create Propagator LowEarthProp
LowEarthProp.FM = LowEarthProp_ForceModel
```

OrbitView

```
Create OrbitView DefaultOrbitView
DefaultOrbitView.Add = {Sat, Earth}
```

OrbitView

```
Create OrbitView DefaultOrbitView
DefaultOrbitView.Add = {Sat, Earth}
DefaultOrbitView.ViewPointVector = [ -60000 30000 20000 ]
DefaultOrbitView.XYPlane = Off
```

Mission Sequence

```
BeginMissionSequence
```

Mission Sequence

```
BeginMissionSequence

Propagate LowEarthProp(Sat) {Sat.Earth.Periapsis}
```