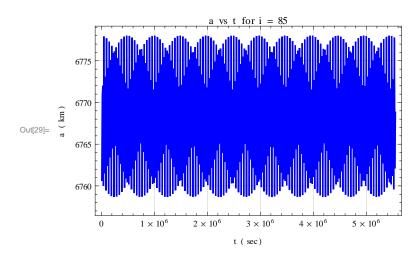
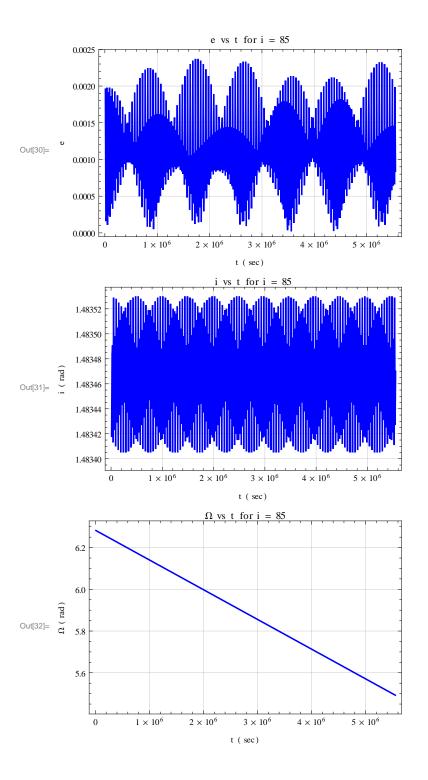
# **Leo Orbits**

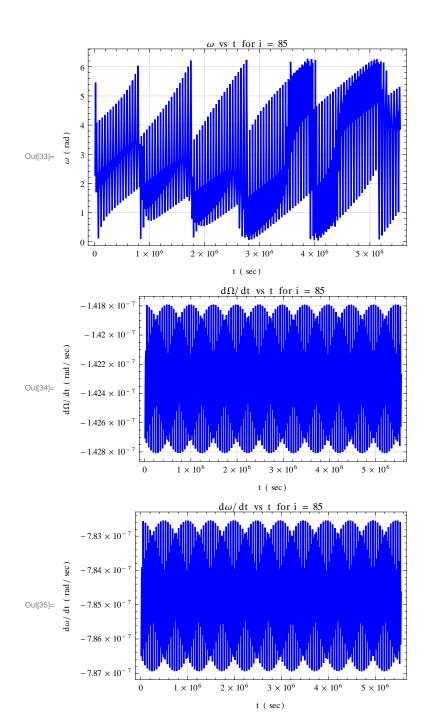
# Dimitriou Eleftherios - AEM: 4399

```
In[1]:= Clear ["Global`*"]
data1 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_1.dat", "Data"];
    data2 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_2.dat", "Data"];
    data3 = Import["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_3.dat", "Data"];
    data4 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_4.dat", "Data"];
    data5 = Import["C:/Users/lefte/OneDrive/Desktop/LEO data/orbits LEO 5.dat", "Data"];
    data6 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_6.dat", "Data"];
    data7 = Import["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_7.dat", "Data"];
    data8 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_8.dat", "Data"];
    data9 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_9.dat", "Data"];
    data10 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_10.dat", "Data"];
    data11 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_11.dat", "Data"];
    data12 = Import["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_12.dat", "Data"];
    data13 = Import["C:/Users/lefte/OneDrive/Desktop/LEO data/orbits LEO 13.dat", "Data"];
    data14 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_14.dat", "Data"];
    data15 = Import["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_15.dat", "Data"];
    data16 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_16.dat", "Data"];
    data17 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_17.dat", "Data"];
    data18 = Import["C:/Users/lefte/OneDrive/Desktop/LEO data/orbits LEO 18.dat", "Data"];
    data19 = Import ["C:/Users/lefte/OneDrive/Desktop/LEO_data/orbits_LEO_19.dat", "Data"];
```

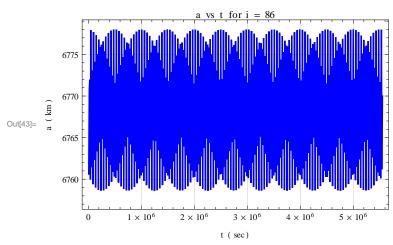
```
In[22]:= avst0 = data0[[All, {1, 2}]];
      evst0 = data0[[All, {1, 3}]];
      ivst0 = data0[[All, {1, 4}]];
      Wvst0 = data0[[All, {1, 5}]];
      wvst0 = data0[[All, {1, 6}]];
      Wdotvst0 = data0[[All, {1, 7}]];
      wdotvst0 = data0[[All, {1, 8}]];
      ListLinePlot[avst0, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 85",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst0, PlotStyle → Blue, PlotLabel → "e vs t for i = 85",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst0, PlotStyle → Blue, PlotLabel → "i vs t for i = 85",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst0, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 85",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst0, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 85",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst0, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 85",
       ListLinePlot[wdotvst0, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 85",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

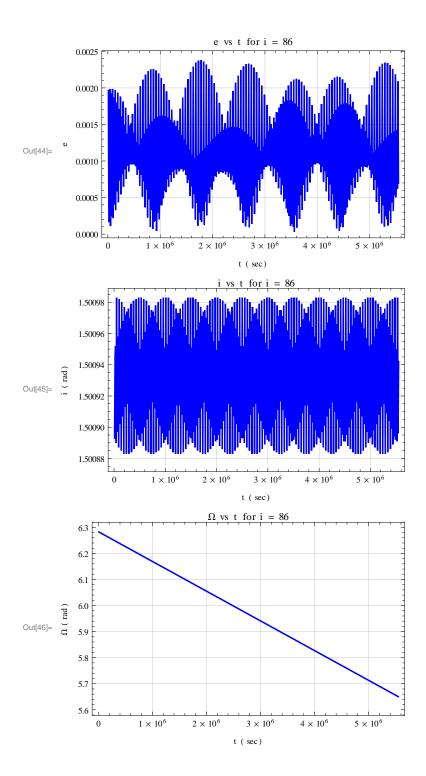


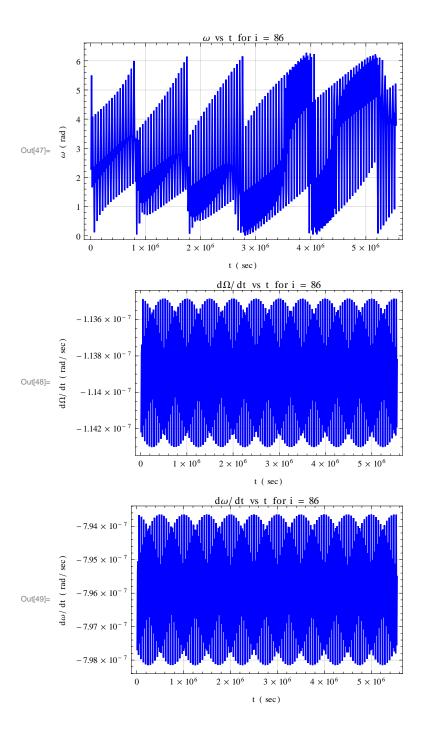




```
In[36]:= avst1 = data1[[All, {1, 2}]];
      evst1 = data1[[All, {1, 3}]];
      ivst1 = data1[[All, {1, 4}]];
      Wvst1 = data1[[All, {1, 5}]];
      wvst1 = data1[[All, {1, 6}]];
      Wdotvst1 = data1[[All, {1, 7}]];
      wdotvst1 = data1[[All, {1, 8}]];
      ListLinePlot[avst1, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 86",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst1, PlotStyle → Blue, PlotLabel → "e vs t for i = 86",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst1, PlotStyle → Blue, PlotLabel → "i vs t for i = 86",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst1, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 86",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst1, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 86",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst1, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 86",
       ListLinePlot[wdotvst1, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 86",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

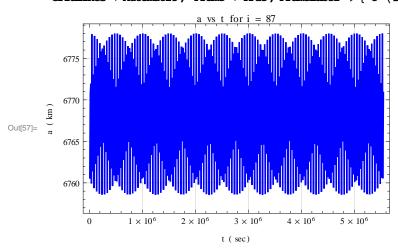


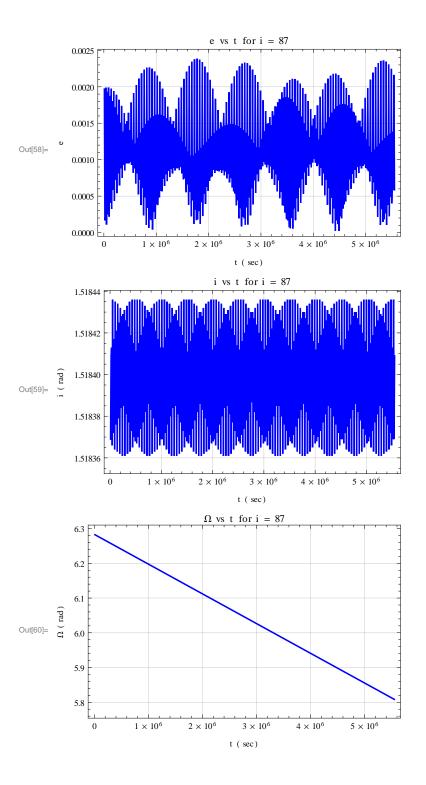


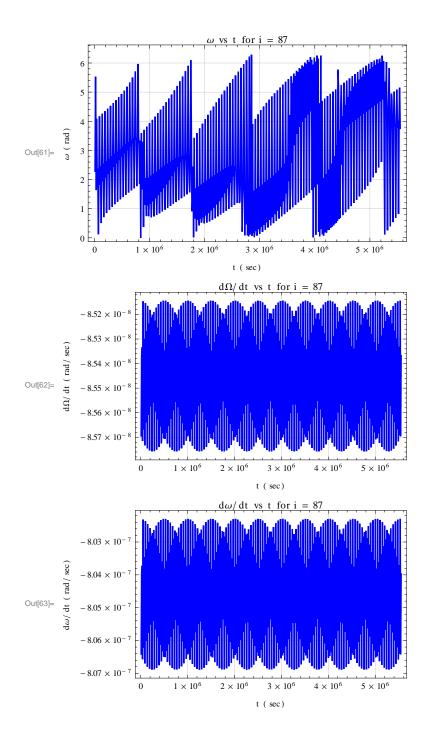


```
■ i = 87
```

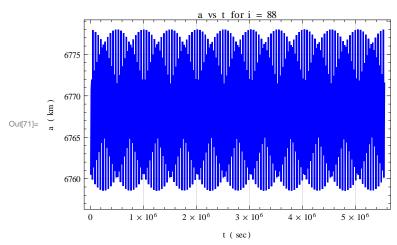
```
In[50]:= avst2 = data2[[All, {1, 2}]];
      evst2 = data2[[All, {1, 3}]];
      ivst2 = data2[[All, {1, 4}]];
      Wvst2 = data2[[All, {1, 5}]];
      wvst2 = data2[[All, {1, 6}]];
      Wdotvst2 = data2[[All, {1, 7}]];
      wdotvst2 = data2[[All, {1, 8}]];
      ListLinePlot[avst2, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 87",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst2, PlotStyle → Blue, PlotLabel → "e vs t for i = 87",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst2, PlotStyle → Blue, PlotLabel → "i vs t for i = 87",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst2, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 87",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst2, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 87",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst2, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 87",
       ListLinePlot[wdotvst2, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 87",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

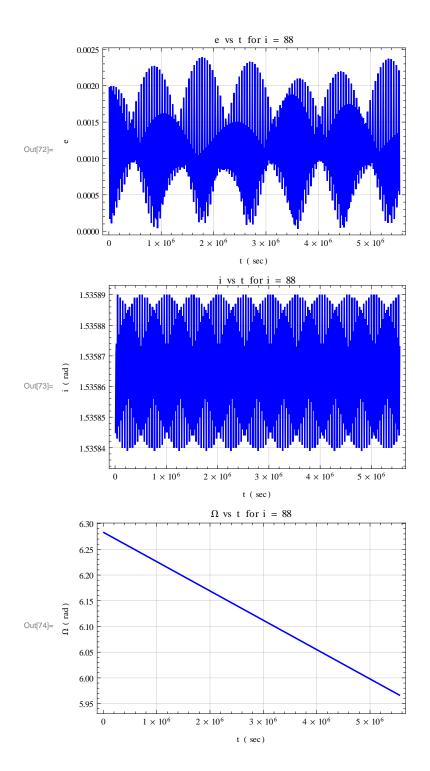


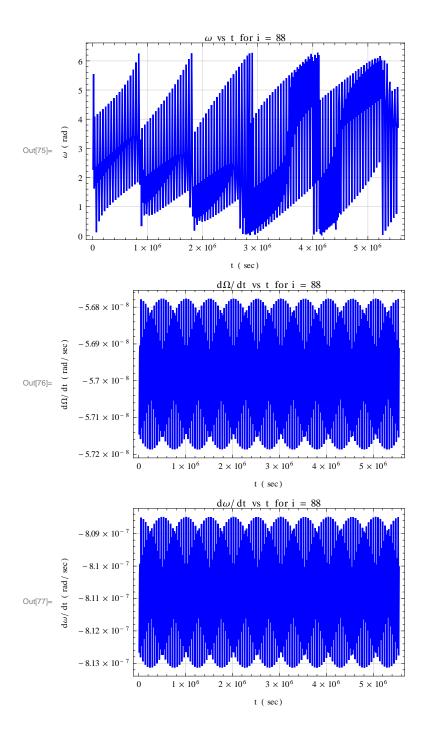




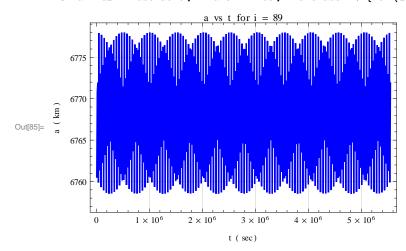
```
In[64]:= avst3 = data3[[All, {1, 2}]];
       evst3 = data3[[All, {1, 3}]];
       ivst3 = data3[[All, {1, 4}]];
      Wvst3 = data3[[All, {1, 5}]];
       wvst3 = data3[[All, {1, 6}]];
       Wdotvst3 = data3[[All, {1, 7}]];
       wdotvst3 = data3[[All, {1, 8}]];
       ListLinePlot[avst3, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 88",
        \label{eq:condition} \texttt{GridLines} \rightarrow \texttt{Automatic} \; , \; \; \texttt{Frame} \rightarrow \texttt{True} \; , \; \\ \texttt{FrameLabel} \; -> \; \{\texttt{"t} \; \; (\texttt{sec}) \texttt{"}, \texttt{"a} \; \; (\texttt{km}) \texttt{"}\}]
       ListLinePlot[evst3, PlotStyle → Blue, PlotLabel → "e vs t for i = 88",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
       ListLinePlot[ivst3, PlotStyle → Blue, PlotLabel → "i vs t for i = 88",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
       ListLinePlot[Wvst3, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 88",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
       ListLinePlot[wvst3, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 88",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
       ListLinePlot[Wdotvst3, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 88",
        ListLinePlot[wdotvst3, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 88",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

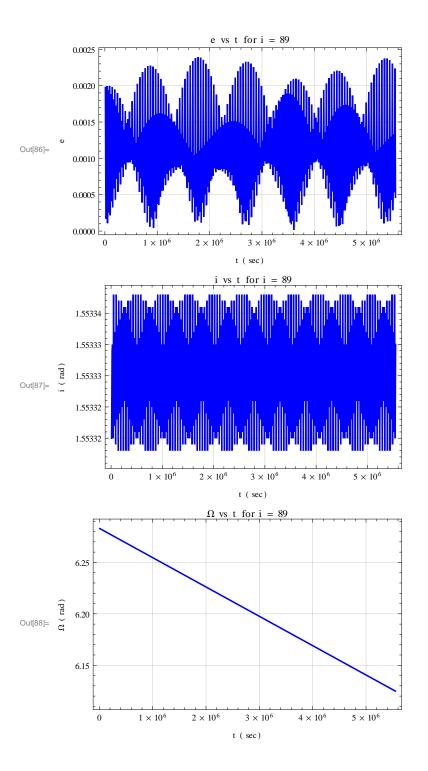


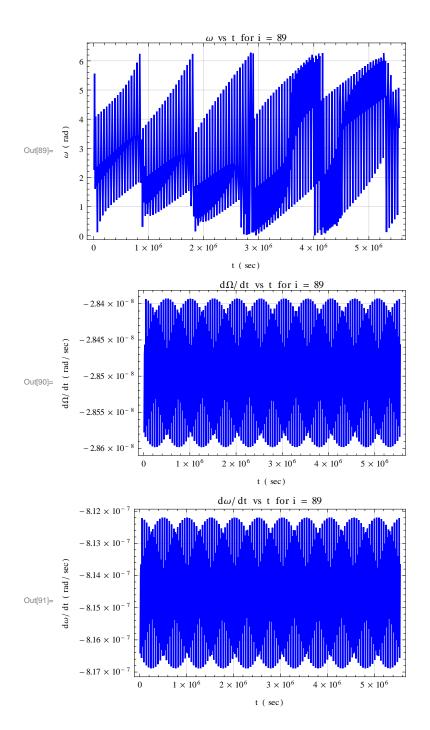




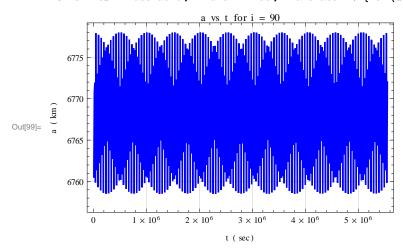
```
In[78]:= avst4 = data4[[All, {1, 2}]];
      evst4 = data4[[All, {1, 3}]];
      ivst4 = data4[[All, {1, 4}]];
      Wvst4 = data4[[All, {1, 5}]];
      wvst4 = data4[[All, {1, 6}]];
      Wdotvst4 = data4[[All, {1, 7}]];
      wdotvst4 = data4[[All, {1, 8}]];
      ListLinePlot[avst4, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 89",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst4, PlotStyle → Blue, PlotLabel → "e vs t for i = 89",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst4, PlotStyle → Blue, PlotLabel → "i vs t for i = 89",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst4, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 89",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst4, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 89",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst4, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 89",
       ListLinePlot[wdotvst4, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 89",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

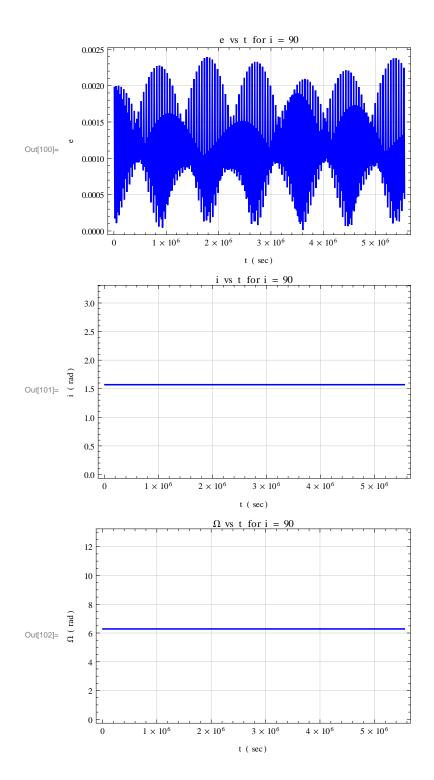


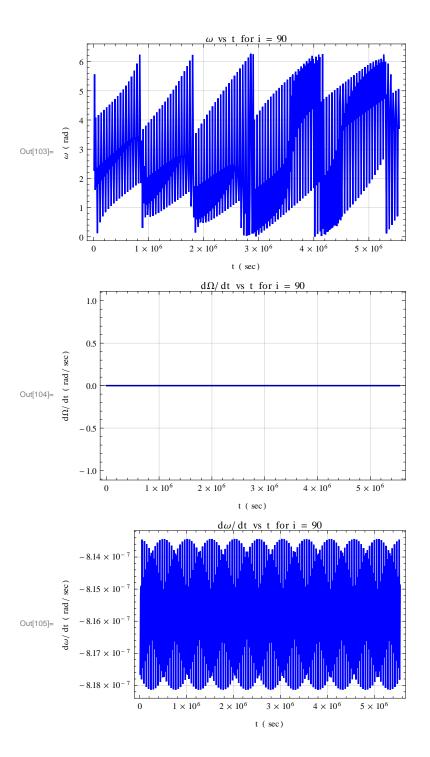




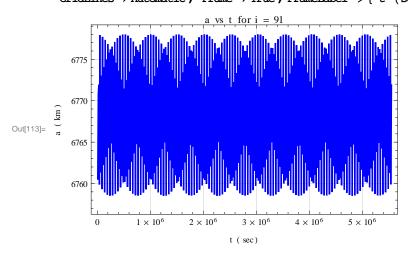
```
In[92]:= avst5 = data5[[All, {1, 2}]];
       evst5 = data5[[All, {1, 3}]];
       ivst5 = data5[[All, {1, 4}]];
      Wvst5 = data5[[All, {1, 5}]];
       wvst5 = data5[[All, {1, 6}]];
       Wdotvst5 = data5[[All, {1, 7}]];
       wdotvst5 = data5[[All, {1, 8}]];
       ListLinePlot[avst5, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 90",
        \label{eq:condition} \texttt{GridLines} \rightarrow \texttt{Automatic} \; , \; \; \texttt{Frame} \rightarrow \texttt{True} \; , \; \\ \texttt{FrameLabel} \; -> \; \{\texttt{"t} \; \; (\texttt{sec}) \texttt{"}, \texttt{"a} \; \; (\texttt{km}) \texttt{"}\}]
       ListLinePlot [evst5, PlotStyle → Blue, PlotLabel → "e vs t for i = 90",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
       ListLinePlot[ivst5, PlotStyle → Blue, PlotLabel → "i vs t for i = 90",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
       ListLinePlot[Wvst5, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 90",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
       ListLinePlot[wvst5, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 90",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
       ListLinePlot[Wdotvst5, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 90",
        ListLinePlot[wdotvst5, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 90",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

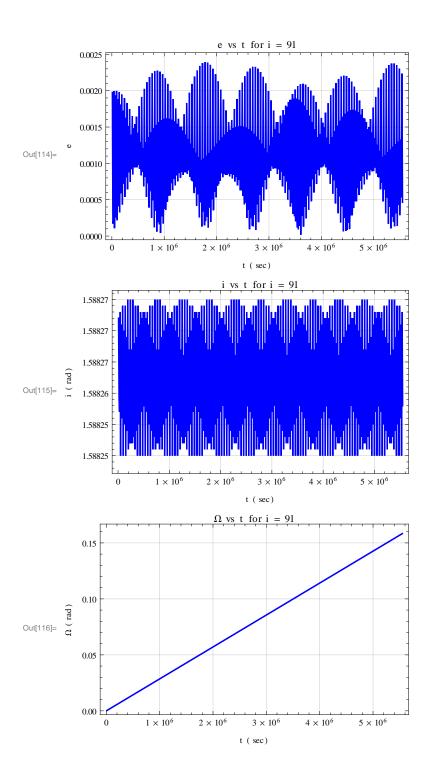


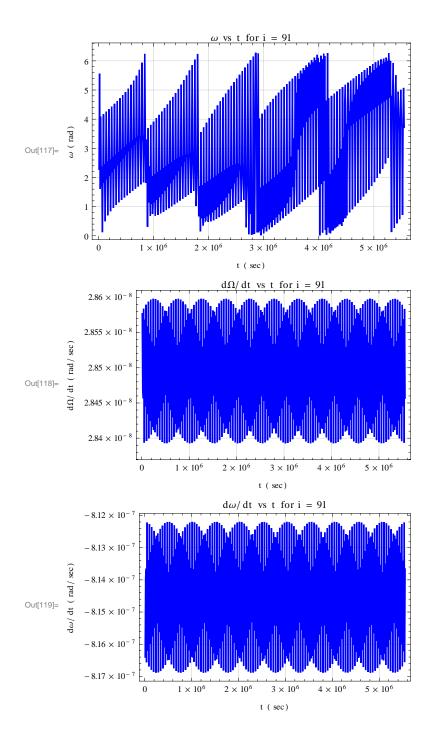




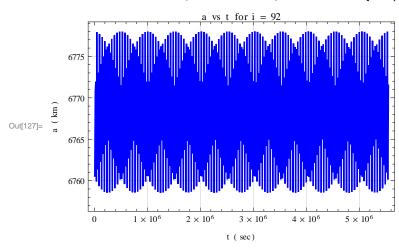
```
in[106]:= avst6 = data6[[All, {1, 2}]];
      evst6 = data6[[All, {1, 3}]];
      ivst6 = data6[[All, {1, 4}]];
      Wvst6 = data6[[All, {1, 5}]];
      wvst6 = data6[[All, {1, 6}]];
      Wdotvst6 = data6[[All, {1, 7}]];
      wdotvst6 = data6[[All, {1, 8}]];
      \label{listLinePlot} ListLinePlot[avst6, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 91",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst6, PlotStyle → Blue, PlotLabel → "e vs t for i = 91",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst6, PlotStyle → Blue, PlotLabel → "i vs t for i = 91",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst6, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 91",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst6, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 91",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst6, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 91",
        ListLinePlot[wdotvst6, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 91",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

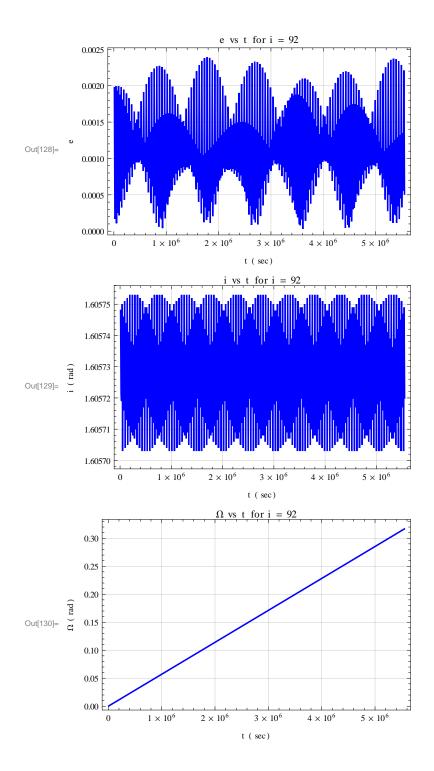


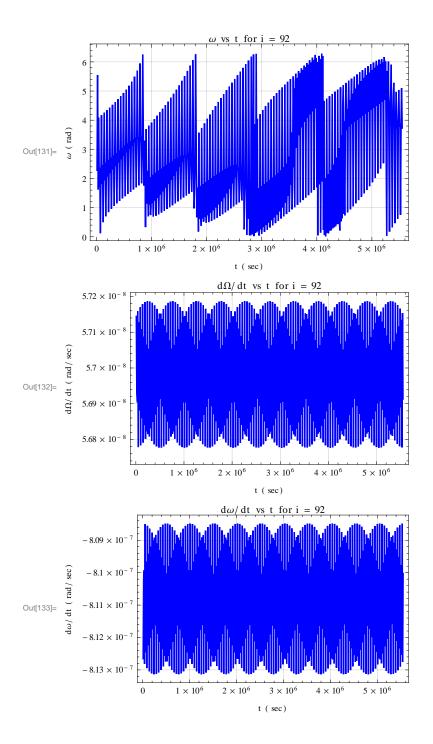




```
in[120]:= avst7 = data7[[All, {1, 2}]];
       evst7 = data7[[All, {1, 3}]];
       ivst7 = data7[[All, {1, 4}]];
       Wvst7 = data7[[All, {1, 5}]];
       wvst7 = data7[[All, {1, 6}]];
       Wdotvst7 = data7[[All, {1, 7}]];
       wdotvst7 = data7[[All, {1, 8}]];
       ListLinePlot[avst7, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 92",
        \label{eq:condition} \texttt{GridLines} \rightarrow \texttt{Automatic} \; , \; \; \texttt{Frame} \rightarrow \texttt{True} \; , \; \\ \texttt{FrameLabel} \; -> \; \{\texttt{"t} \; \; (\texttt{sec}) \texttt{"}, \texttt{"a} \; \; (\texttt{km}) \texttt{"}\}]
       ListLinePlot [evst7, PlotStyle → Blue, PlotLabel → "e vs t for i = 92",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
       ListLinePlot[ivst7, PlotStyle → Blue, PlotLabel → "i vs t for i = 92",
         GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
       ListLinePlot[Wvst7, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 92",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
       ListLinePlot[wvst7, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 92",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
       ListLinePlot[Wdotvst7, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 92",
        ListLinePlot[wdotvst7, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 92",
         GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

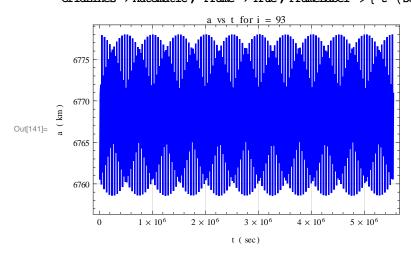


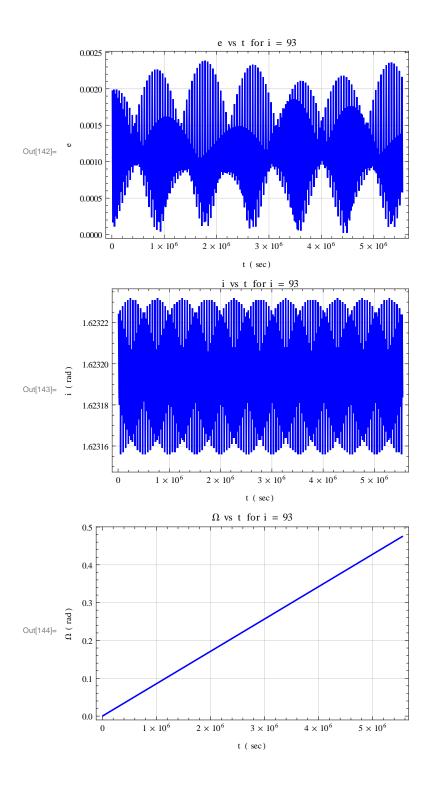


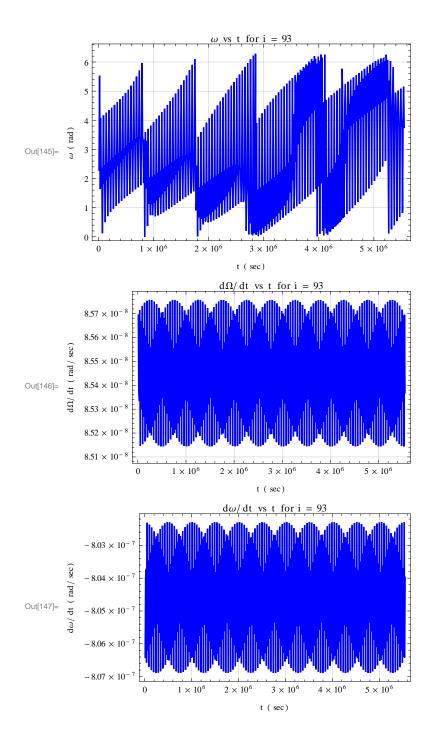


```
= i = 93
```

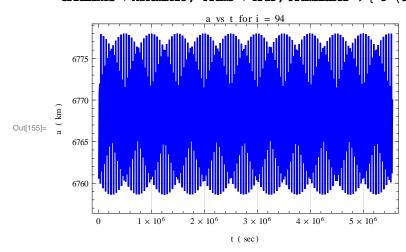
```
in[134]:= avst8 = data8[[All, {1, 2}]];
      evst8 = data8[[All, {1, 3}]];
      ivst8 = data8[[All, {1, 4}]];
      Wvst8 = data8[[All, {1, 5}]];
      wvst8 = data8[[All, {1, 6}]];
      Wdotvst8 = data8[[All, {1, 7}]];
      wdotvst8 = data8[[All, {1, 8}]];
      ListLinePlot[avst8, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 93",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst8, PlotStyle → Blue, PlotLabel → "e vs t for i = 93",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst8, PlotStyle → Blue, PlotLabel → "i vs t for i = 93",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst8, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 93",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst8, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 93",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot[Wdotvst8, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\(\Omega\)/dt vs t for i = 93",
       ListLinePlot[wdotvst8, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 93",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

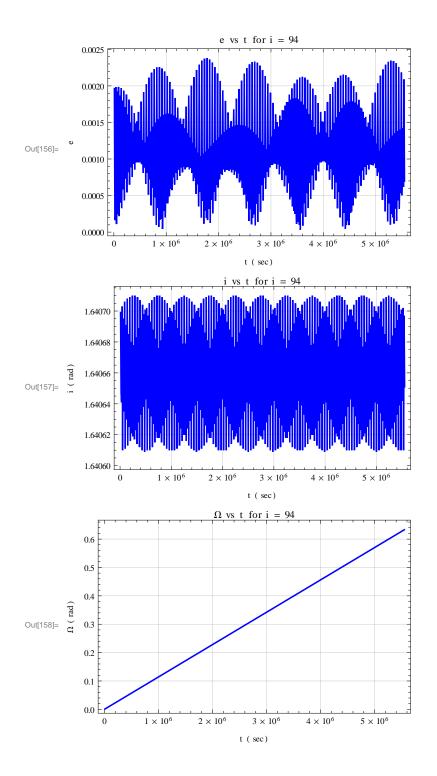


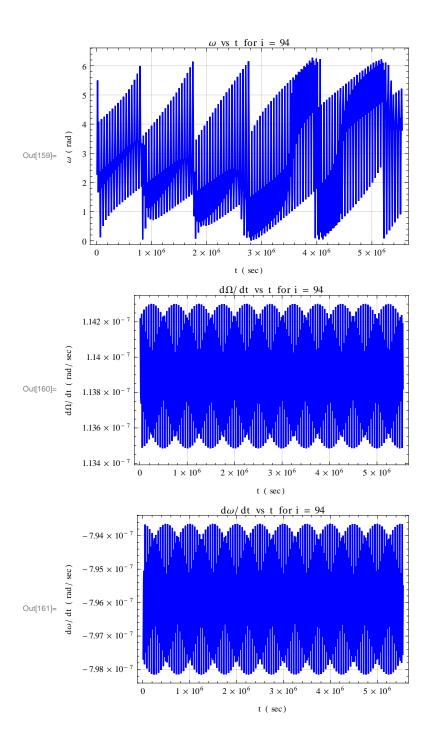




```
in[148]:= avst9 = data9[[All, {1, 2}]];
       evst9 = data9[[All, {1, 3}]];
       ivst9 = data9[[All, {1, 4}]];
       Wvst9 = data9[[All, {1, 5}]];
       wvst9 = data9[[All, {1, 6}]];
       Wdotvst9 = data9[[All, {1, 7}]];
       wdotvst9 = data9[[All, {1, 8}]];
       ListLinePlot[avst9, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 94",
        \label{eq:condition} \texttt{GridLines} \rightarrow \texttt{Automatic} \; , \; \; \texttt{Frame} \rightarrow \texttt{True} \; , \; \\ \texttt{FrameLabel} \; -> \; \{\texttt{"t} \; \; (\texttt{sec}) \texttt{"}, \texttt{"a} \; \; (\texttt{km}) \texttt{"}\}]
       ListLinePlot [evst9, PlotStyle → Blue, PlotLabel → "e vs t for i = 94",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
       ListLinePlot[ivst9, PlotStyle → Blue, PlotLabel → "i vs t for i = 94",
         GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
       ListLinePlot[Wvst9, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 94",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
       ListLinePlot[wvst9, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 94",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
       ListLinePlot [Wdotvst9, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\Omega/dt vs t for i = 94",
        ListLinePlot [wdotvst9, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 94",
         GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```

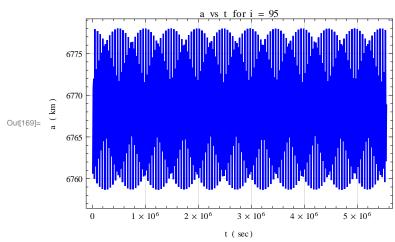


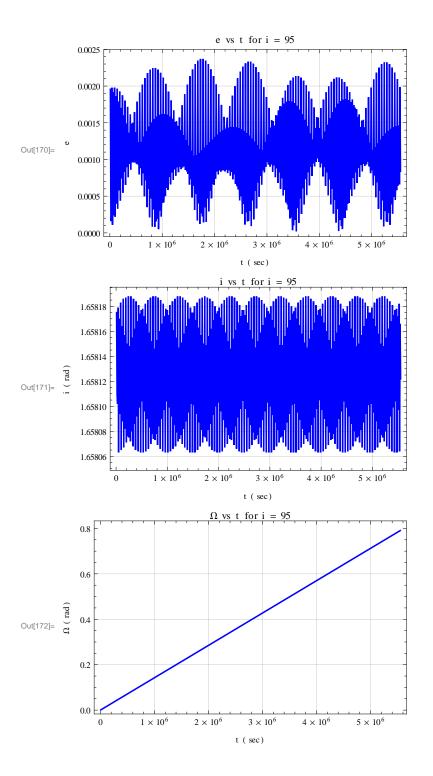


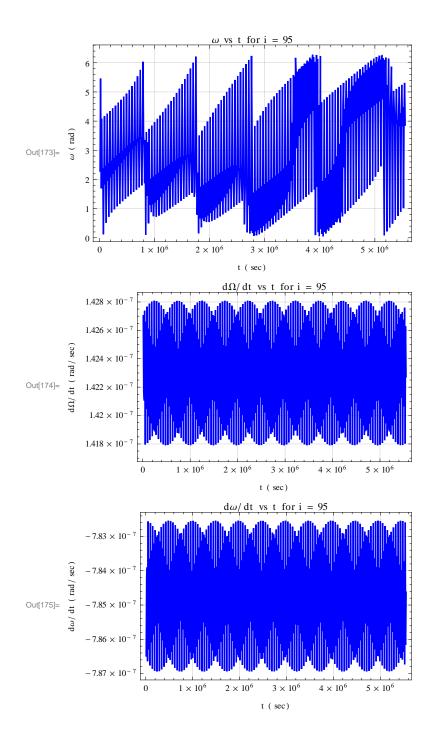


```
in[162]:= avst10 = data10[[All, {1, 2}]];
      evst10 = data10[[All, {1, 3}]];
      ivst10 = data10[[All, {1, 4}]];
      Wvst10 = data10[[All, {1, 5}]];
      wvst10 = data10[[All, {1, 6}]];
      Wdotvst10 = data10[[All, {1, 7}]];
      wdotvst10 = data10[[All, {1, 8}]];
```

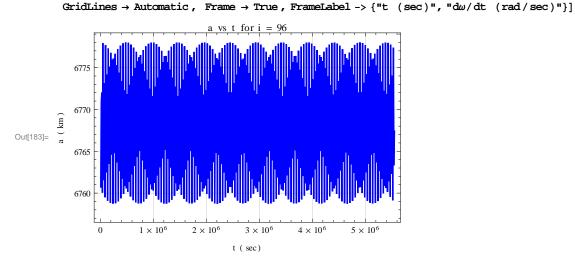
ListLinePlot[avst10, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "a vs t for i = 95", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}] ListLinePlot[evst10, PlotStyle → Blue, PlotLabel → "e vs t for i = 95", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}] ListLinePlot[ivst10, PlotStyle → Blue, PlotLabel → "i vs t for i = 95", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}] ListLinePlot[Wvst10, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\Omega$  vs t for i = 95", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\Omega$  (rad)"} ListLinePlot[wvst10, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\omega$  vs t for i = 95", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\omega$  (rad)"} ListLinePlot [Wdotvst10, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d $\Omega$ /dt vs t for i = 95", ListLinePlot[wdotvst10, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d $\omega$ /dt vs t for i = 95", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", "d $\omega$ /dt (rad/sec)"}

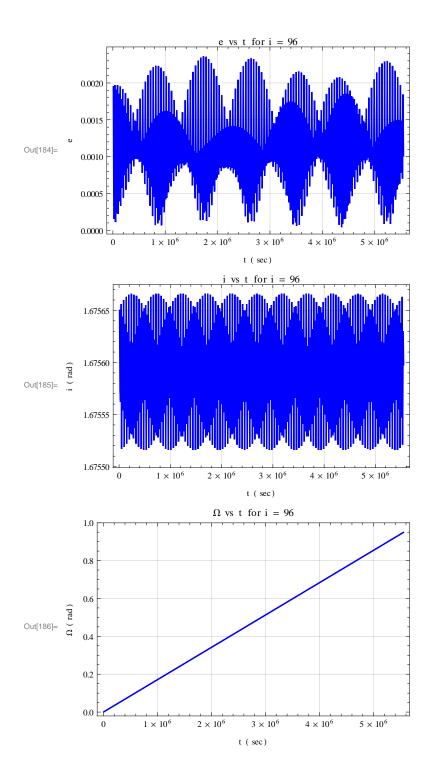


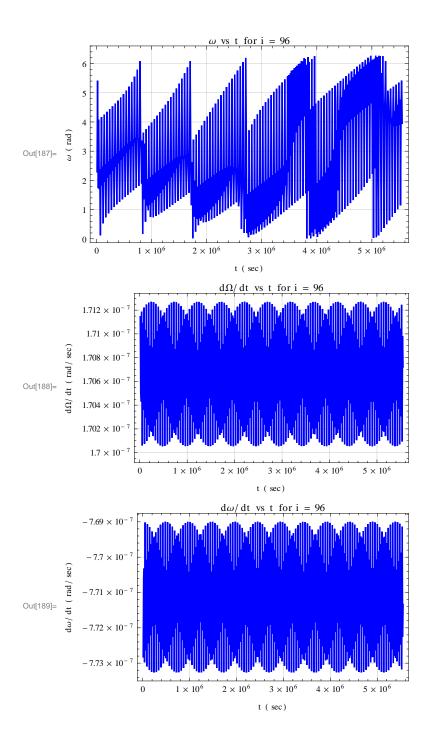




```
in[176]:= avst11 = data11[[All, {1, 2}]];
      evst11 = data11[[All, {1, 3}]];
      ivst11 = data11[[All, {1, 4}]];
      Wvst11 = data11[[All, {1, 5}]];
      wvst11 = data11[[All, {1, 6}]];
      Wdotvst11 = data11[[All, {1, 7}]];
      wdotvst11 = data11[[All, {1, 8}]];
      ListLinePlot[avst11, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 96",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst11, PlotStyle → Blue, PlotLabel → "e vs t for i = 96",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst11, PlotStyle → Blue, PlotLabel → "i vs t for i = 96",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst11, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 96",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst11, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 96",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot [Wdotvst11, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\Omega/dt vs t for i = 96",
       ListLinePlot[wdotvst11, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 96",
```

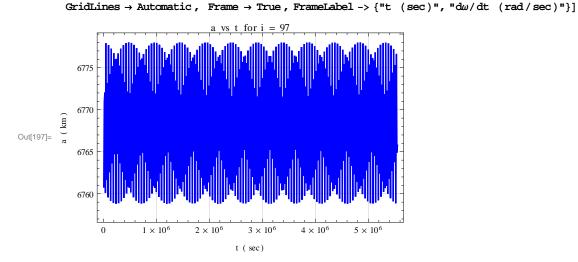


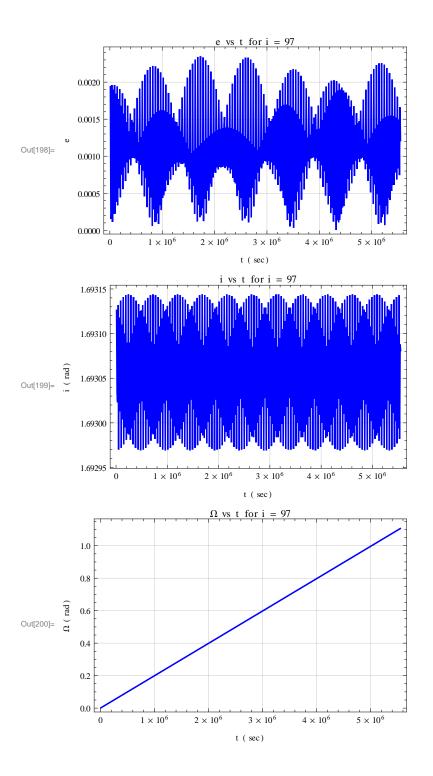


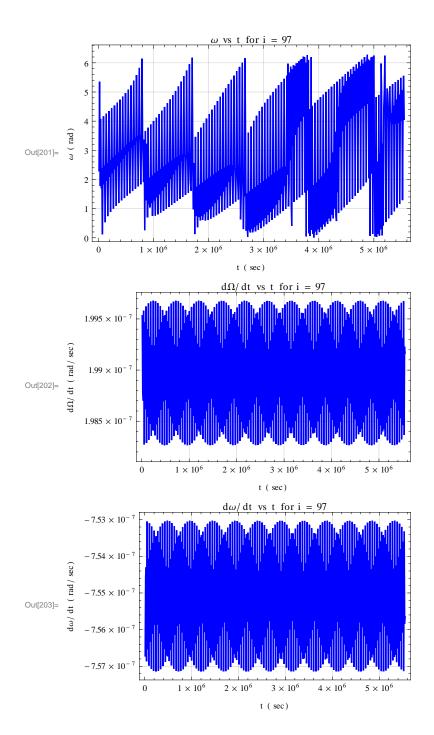


```
= i = 97
```

```
In[190]:= avst12 = data12[[All, {1, 2}]];
      evst12 = data12[[All, {1, 3}]];
      ivst12 = data12[[All, {1, 4}]];
      Wvst12 = data12[[All, {1, 5}]];
      wvst12 = data12[[All, {1, 6}]];
      Wdotvst12 = data12[[All, {1, 7}]];
      wdotvst12 = data12[[All, {1, 8}]];
      ListLinePlot[avst12, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 97",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst12, PlotStyle → Blue, PlotLabel → "e vs t for i = 97",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst12, PlotStyle → Blue, PlotLabel → "i vs t for i = 97",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst12, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 97",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst12, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 97",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot [Wdotvst12, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\Omega/dt vs t for i = 97",
       ListLinePlot[wdotvst12, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 97",
```

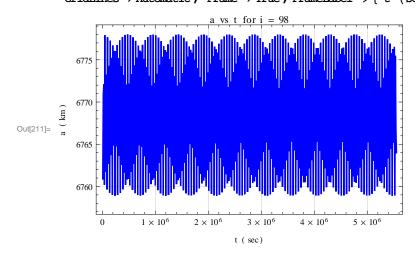


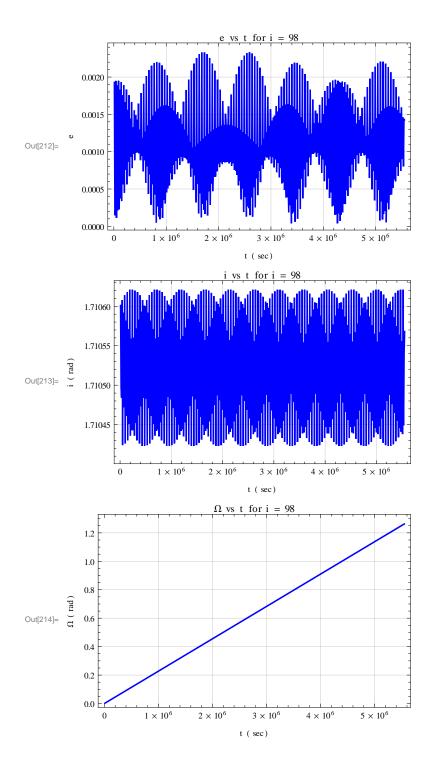


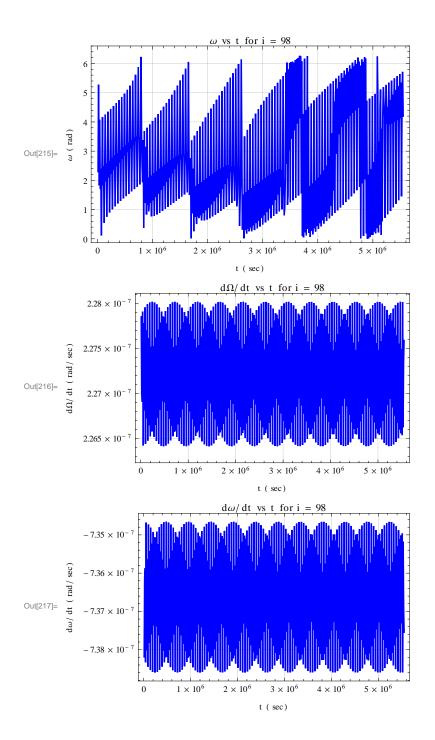


## = i = 98

```
in[204]:= avst13 = data13[[All, {1, 2}]];
      evst13 = data13[[All, {1, 3}]];
      ivst13 = data13[[All, {1, 4}]];
      Wvst13 = data13[[All, {1, 5}]];
      wvst13 = data13[[All, {1, 6}]];
      Wdotvst13 = data13[[All, {1, 7}]];
      wdotvst13 = data13[[All, {1, 8}]];
      ListLinePlot[avst13, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "a vs t for i = 98",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]
      ListLinePlot[evst13, PlotStyle → Blue, PlotLabel → "e vs t for i = 98",
       GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]
      ListLinePlot[ivst13, PlotStyle → Blue, PlotLabel → "i vs t for i = 98",
        GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]
      ListLinePlot[Wvst13, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\Omega vs t for i = 98",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\Omega (rad)"}
      ListLinePlot[wvst13, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "\omega vs t for i = 98",
       GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "\omega (rad)"}
      ListLinePlot [Wdotvst13, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\Omega/dt vs t for i = 98",
       ListLinePlot[wdotvst13, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "d\omega/dt vs t for i = 98",
        GridLines \rightarrow Automatic, Frame \rightarrow True, FrameLabel \rightarrow {"t (sec)", "d\omega/dt (rad/sec)"}
```







```
In[218]:= avst14 = data14[[Al1, {1, 2}]];
evst14 = data14[[Al1, {1, 4}]];
ivst14 = data14[[Al1, {1, 4}]];
Wvst14 = data14[[Al1, {1, 5}]];
wvst14 = data14[[Al1, {1, 6}]];
Wdotvst14 = data14[[Al1, {1, 7}]];
wdotvst14 = data14[[Al1, {1, 7}]];
wdotvst14 = data14[[Al1, {1, 8}]];

ListLinePlot[avst14, PlotStyle → Blue, PlotLabel → "a vs t for i = 99",
GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "a (km)"]
ListLinePlot[evst14, PlotStyle → Blue, PlotLabel → "e vs t for i = 99",
GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "e"}]
ListLinePlot[ivst14, PlotStyle → Blue, PlotLabel → "i vs t for i = 99",
GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "i (rad)"
ListLinePlot[Wvst14, PlotStyle → Blue, PlotLabel → "Ω vs t for i = 99",
```

GridLines \( \to \text{Automatic} \), Frame \( \to \text{True} \), FrameLabel \( -> \{\text{"t (sec)", "a (km)"}} \)]

ListLinePlot[evst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( \to \text{"t (sec)", "e"}} \]

ListLinePlot[ivst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( \to \text{"i vs t for i = 99", } \)

GridLines \( \to \text{Automatic} \), Frame \( \to \text{True} \), FrameLabel \( -> \{\text{"t (sec)", "i (rad)"}} \)]

ListLinePlot[Wvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( \to \text{"u vs t for i = 99", } \)

GridLines \( \to \text{Automatic} \), Frame \( \to \text{True} \), FrameLabel \( -> \{\text{"t (sec)", "\Omega (rad)"}} \)]

ListLinePlot[wvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \{\text{"t (sec)", "\omega (rad)"}} \)]

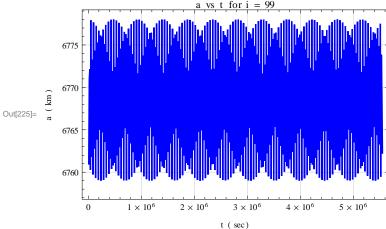
ListLinePlot[Wdotvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \{\text{"t (sec)", "\omega (rad)"}} \)]

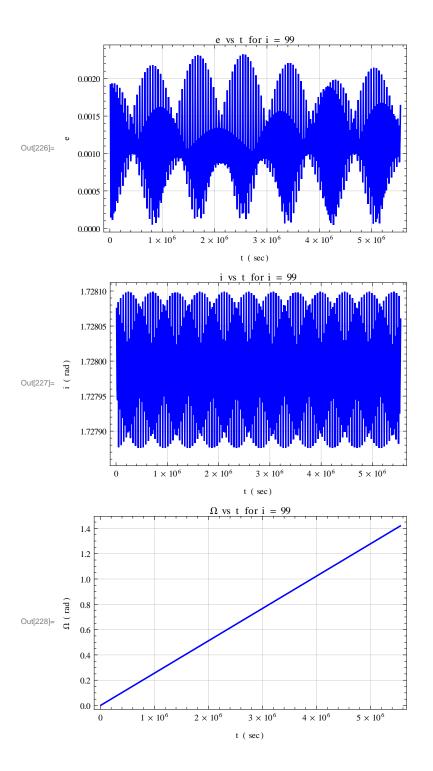
ListLinePlot[wdotvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \{\text{"t (sec)", "\omega (\text{rad} \/ \text{day}) \) dt (rad/sec)"}]

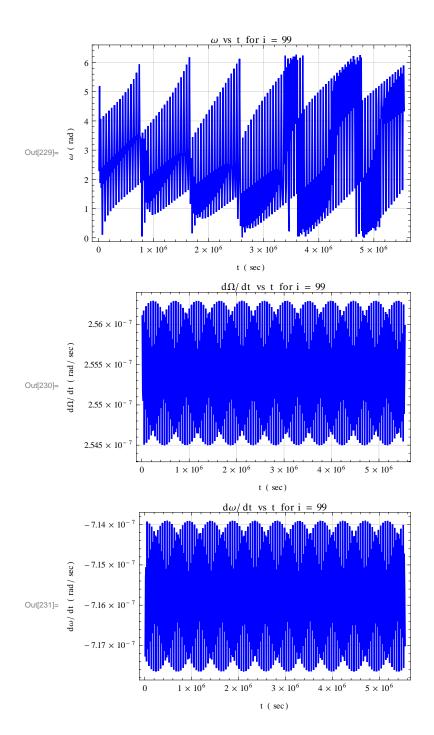
ListLinePlot[wdotvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \{\text{"t (sec)", "\omega (\text{rad} \/ \text{day}) \) dt (rad/sec)"}]

ListLinePlot[wdotvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \text{"t (sec)", "\omega (\text{rad} \/ \text{day}) \) dt (rad/sec)"}]

ListLinePlot[wdotvst14, PlotStyle \( \to \text{Blue} \), PlotLabel \( -> \text{"t (sec)", "\omega (\text{rad} \/ \text{day}) \) dt (rad/sec)"}]







## ■ i = 100

```
In[232]:= avst15 = data15[[All, {1, 2}]];
    evst15 = data15[[All, {1, 3}]];
    ivst15 = data15[[All, {1, 4}]];
    Wvst15 = data15[[All, {1, 5}]];
    wvst15 = data15[[All, {1, 6}]];
    Wdotvst15 = data15[[All, {1, 7}]];
    wdotvst15 = data15[[All, {1, 7}]];
    wdotvst15 = data15[[All, {1, 8}]];

ListLinePlot[avst15, PlotStyle → Blue, PlotLabel → "a vs t for i = 100",
    GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "a (km)"}]
    ListLinePlot[evst15, PlotStyle → Blue, PlotLabel → "e vs t for i = 100",
    GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "e"}]
    ListLinePlot[ivst15, PlotStyle → Blue, PlotLabel → "i vs t for i = 100",
    GridLines → Automatic, Frame → True, FrameLabel →> {"t (sec)", "i (rad)"}
```

GridLines \( \to \) Automatic, Frame \( \to \) True, FrameLabel \( \to \) "t (sec)", "e"}]

ListLinePlot[ivst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "i vs t for i = 100",

GridLines \( \to \) Automatic, Frame \( \to \) True, FrameLabel \( \to \) "i vs t for i = 100",

GridLines \( \to \) Automatic, Frame \( \to \) True, FrameLabel \( \to \) "0 vs t for i = 100",

GridLines \( \to \) Automatic, Frame \( \to \) True, FrameLabel \( \to \) "\( \to \) (rad)"}]

ListLinePlot[wvst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "\( \to \) vs t for i = 100",

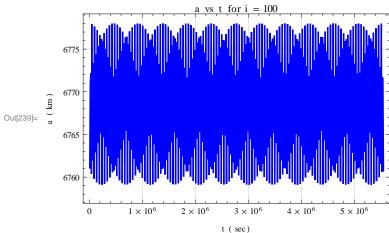
GridLines \( \to \) Automatic, Frame \( \to \) True, FrameLabel \( \to \) "\( \to \) (rad)"}]

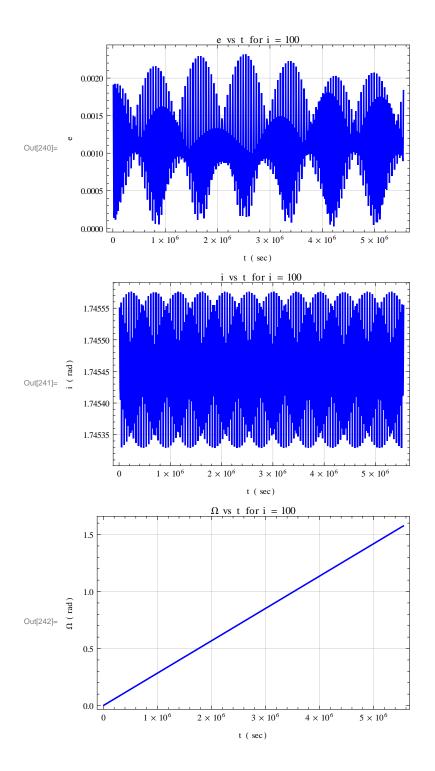
ListLinePlot[wdotvst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "\( \to \) (rad)"}]

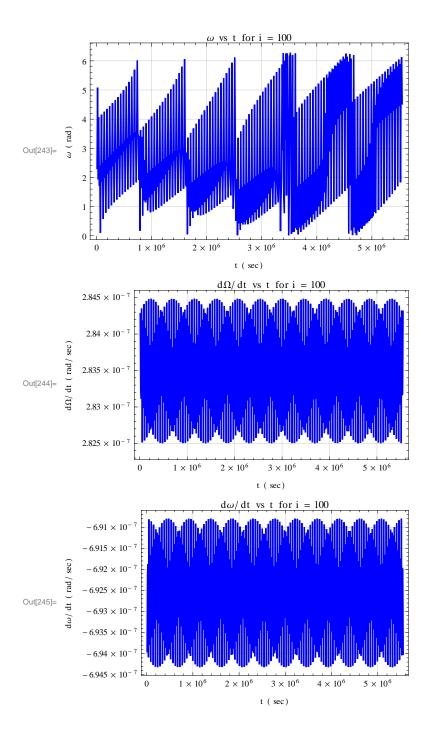
ListLinePlot[wdotvst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "\( \to \) "\( \to \) "\( \to \) (rad/dt (rad/sec)"}]

ListLinePlot[wdotvst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "\( \to \) "\( \to \) "\( \to \) "\( \to \) (rad/dt (rad/sec)"}]

ListLinePlot[wdotvst15, PlotStyle \( \to \) Blue, PlotLabel \( \to \) "\( \to \) "\(



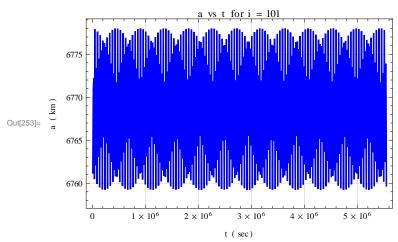


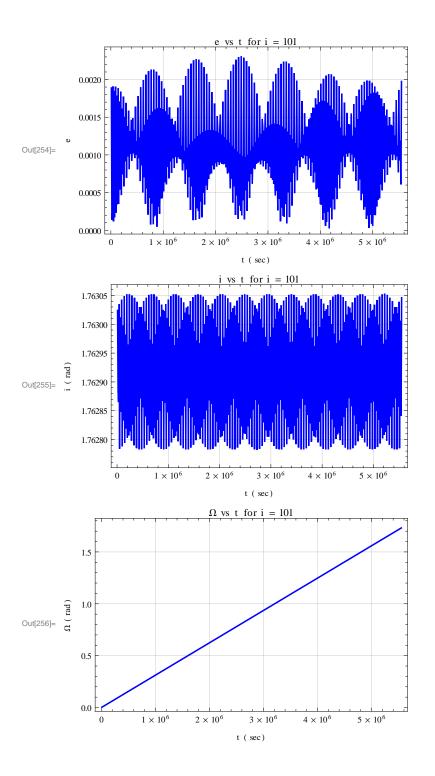


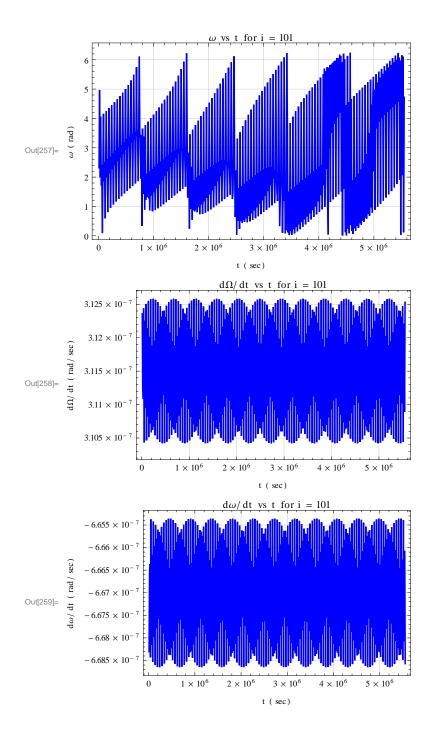
## ■ i = 101

```
in[246]:= avst16 = data16[[All, {1, 2}]];
      evst16 = data16[[All, {1, 3}]];
      ivst16 = data16[[All, {1, 4}]];
      Wvst16 = data16[[All, {1, 5}]];
      wvst16 = data16[[All, {1, 6}]];
      Wdotvst16 = data16[[All, {1, 7}]];
      wdotvst16 = data16[[All, {1, 8}]];
```

ListLinePlot[avst16, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "a vs t for i = 101", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}] ListLinePlot[evst16, PlotStyle → Blue, PlotLabel → "e vs t for i = 101", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}] ListLinePlot[ivst16, PlotStyle → Blue, PlotLabel → "i vs t for i = 101", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}] ListLinePlot[Wvst16, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\Omega$  vs t for i = 101", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\Omega$  (rad)"} ListLinePlot[wvst16, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\omega$  vs t for i = 101", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\omega$  (rad)"} ListLinePlot [Wdotvst16, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d\(\Omega/\)dt vs t for i = 101", ListLinePlot[wdotvst16, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d $\omega$ /dt vs t for i = 101", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", "d $\omega$ /dt (rad/sec)"}







## = i = 102

```
In[260]:= avst17 = data17[[All, {1, 2}]];
    evst17 = data17[[All, {1, 3}]];
    ivst17 = data17[[All, {1, 4}]];
    Wvst17 = data17[[All, {1, 5}]];
    wvst17 = data17[[All, {1, 6}]];
    Wdotvst17 = data17[[All, {1, 7}]];
    wdotvst17 = data17[[All, {1, 8}]];
```

ListLinePlot[avst17, PlotStyle → Blue, PlotLabel → "a vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]

ListLinePlot[evst17, PlotStyle → Blue, PlotLabel → "e vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]

ListLinePlot[ivst17, PlotStyle → Blue, PlotLabel → "i vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]

ListLinePlot[Wvst17, PlotStyle → Blue, PlotLabel → "Ω vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "Ω (rad)"}]

ListLinePlot[wvst17, PlotStyle → Blue, PlotLabel → "ω vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "ω (rad)"}]

ListLinePlot[Wdotvst17, PlotStyle → Blue, PlotLabel → "dΩ/dt vs t for i = 102",

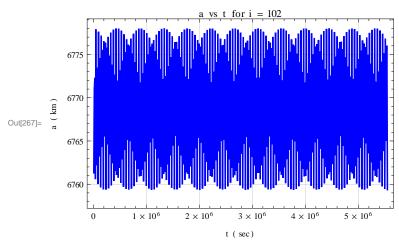
GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dΩ/dt (rad/sec)"}]

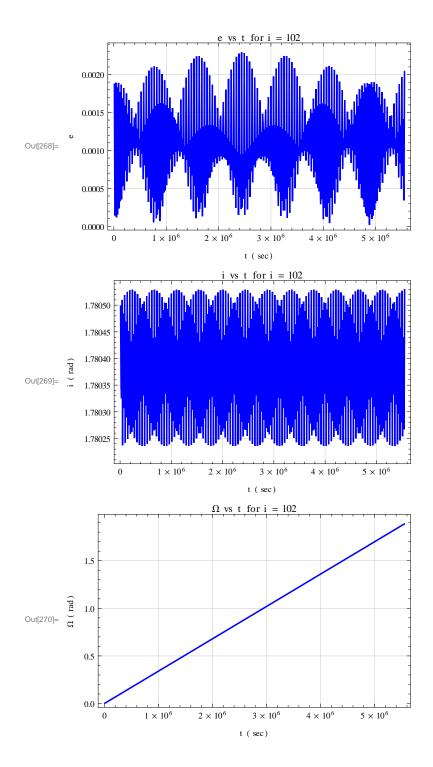
ListLinePlot[wdotvst17, PlotStyle → Blue, PlotLabel → "dω/dt vs t for i = 102",

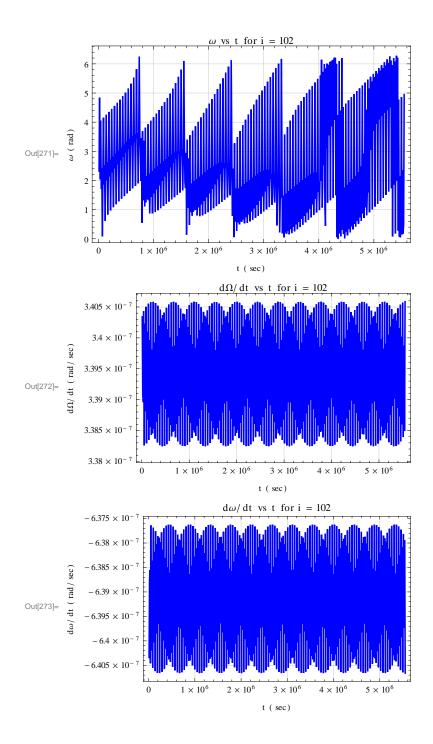
GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dΩ/dt (rad/sec)"}]

ListLinePlot[wdotvst17, PlotStyle → Blue, PlotLabel → "dω/dt vs t for i = 102",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dω/dt (rad/sec)"}]



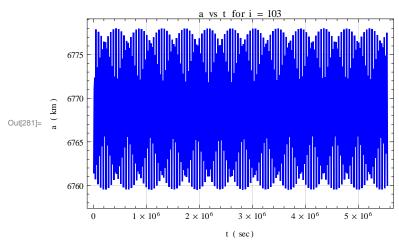


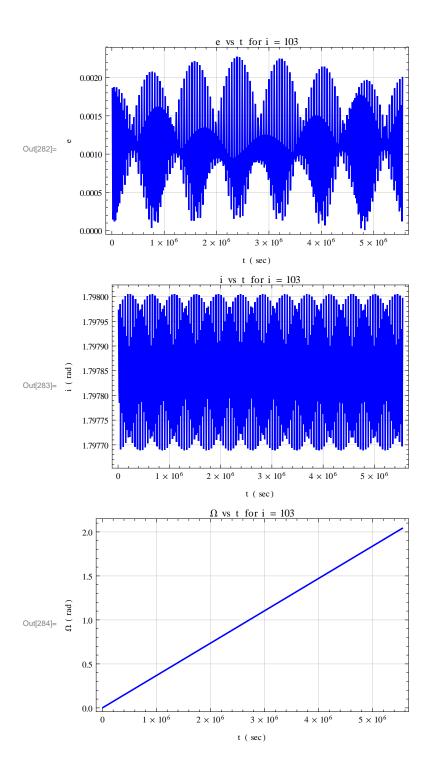


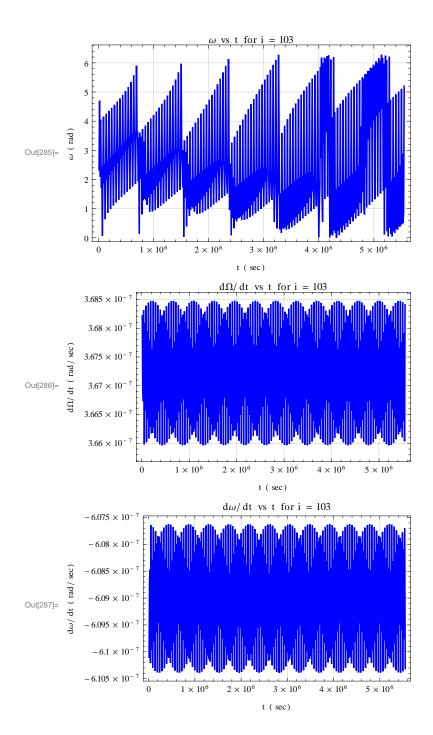
## ■ i = 103

```
in[274]:= avst18 = data18[[All, {1, 2}]];
      evst18 = data18[[All, {1, 3}]];
      ivst18 = data18[[All, {1, 4}]];
      Wvst18 = data18[[All, {1, 5}]];
      wvst18 = data18[[All, {1, 6}]];
      Wdotvst18 = data18[[All, {1, 7}]];
      wdotvst18 = data18[[All, {1, 8}]];
```

ListLinePlot[avst18, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "a vs t for i = 103", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]  $\label{listLinePlot} ListLinePlot[evst18, PlotStyle \rightarrow Blue, PlotLabel \rightarrow "e vs t for i = 103",$ GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}] ListLinePlot[ivst18, PlotStyle → Blue, PlotLabel → "i vs t for i = 103", GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}] ListLinePlot[Wvst18, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\Omega$  vs t for i = 103", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\Omega$  (rad)"} ListLinePlot[wvst18, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  " $\omega$  vs t for i = 103", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", " $\omega$  (rad)"} ListLinePlot [Wdotvst18, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d\(\Omega/\)dt vs t for i = 103", ListLinePlot[wdotvst18, PlotStyle  $\rightarrow$  Blue, PlotLabel  $\rightarrow$  "d $\omega$ /dt vs t for i = 103", GridLines  $\rightarrow$  Automatic, Frame  $\rightarrow$  True, FrameLabel  $\rightarrow$  {"t (sec)", "d $\omega$ /dt (rad/sec)"}







## = i = 104

```
In[288]:= avst19 = data19[[All, {1, 2}]];
    evst19 = data19[[All, {1, 3}]];
    ivst19 = data19[[All, {1, 4}]];
    Wvst19 = data19[[All, {1, 5}]];
    wvst19 = data19[[All, {1, 6}]];
    Wdotvst19 = data19[[All, {1, 7}]];
    wdotvst19 = data19[[All, {1, 7}]];
```

ListLinePlot[avst19, PlotStyle → Blue, PlotLabel → "a vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "a (km)"}]

ListLinePlot[evst19, PlotStyle → Blue, PlotLabel → "e vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "e"}]

ListLinePlot[ivst19, PlotStyle → Blue, PlotLabel → "i vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "i (rad)"}]

ListLinePlot[Wvst19, PlotStyle → Blue, PlotLabel → "Ω vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "Ω (rad)"}]

ListLinePlot[wvst19, PlotStyle → Blue, PlotLabel → "ω vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "ω (rad)"}]

ListLinePlot[Wdotvst19, PlotStyle → Blue, PlotLabel → "dΩ/dt vs t for i = 104",

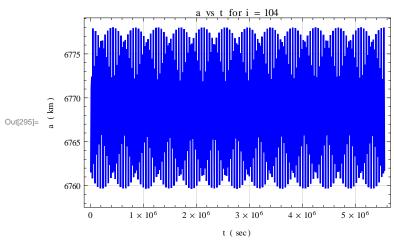
GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dΩ/dt (rad/sec)"}]

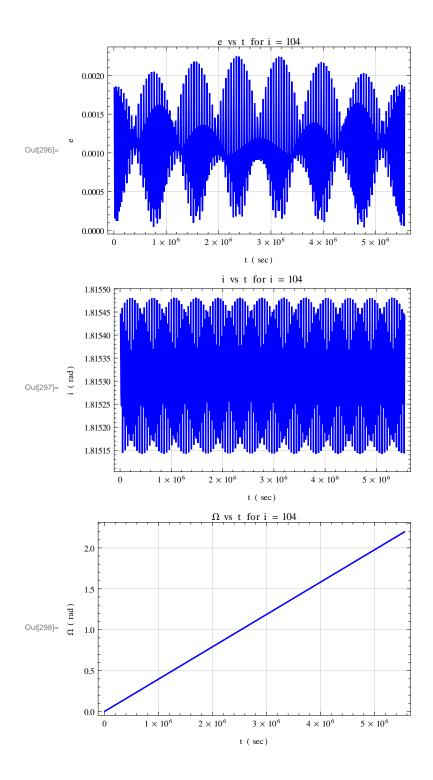
ListLinePlot[wdotvst19, PlotStyle → Blue, PlotLabel → "dω/dt vs t for i = 104",

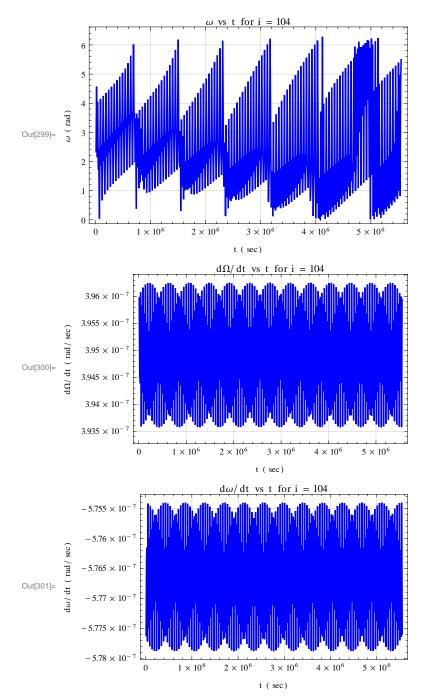
GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dΩ/dt (rad/sec)"}]

ListLinePlot[wdotvst19, PlotStyle → Blue, PlotLabel → "dω/dt vs t for i = 104",

GridLines → Automatic, Frame → True, FrameLabel -> {"t (sec)", "dω/dt (rad/sec)"}]







# Σχόλια και παρατηρήσεις

Παρατηρούμε πως τα αποτελέσματα συμφωνούν με την θεωρία. Πιο συγκεκριμένα, φαίνεται πως για  $0 \le i < 90 \Longrightarrow d\Omega/dt < 0$  ενώγια  $90 < i \le 180 \Longrightarrow d\Omega/dt > 0$ . Επίσης για i = 90 (κρίσιμη τιμή) παρατηρούμε πως η γραμμή των κήμβων παραμένει σταθερή. Τέλος, φαίνεται πως τα αποτελέσματ άμας, συμφωνούν και με την θεωρία averaged.