

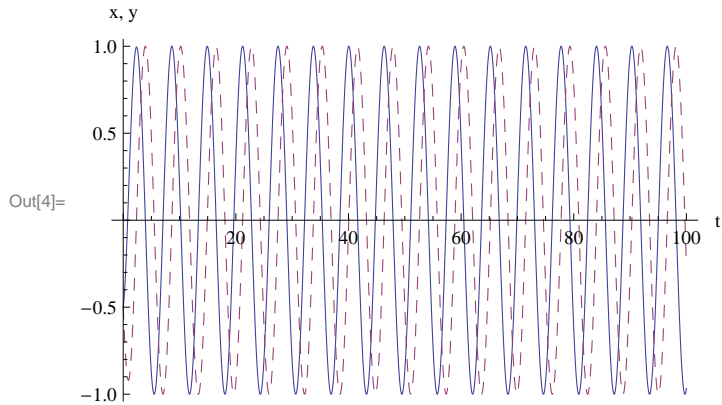
```
In[1]:= sys[x0_, y0_] := {x'[t] == -y[t] + x[t] * (1 - x[t]^2 - y[t]^2),  
  y'[t] == x[t] + y[t] * (1 - x[t]^2 - y[t]^2), x[0] == x0, y[0] == y0}
```

```
In[2]:= ans[x0_, y0_, tf_] :=  
  {x[t], y[t]} /. Flatten[NDSolve[sys[x0, y0], {x[t], y[t]}, {t, 0, tf}]]
```

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In[3]:= sol1 = ans[-1/2, -1/2, 100]
```

```
Out[3]= {InterpolatingFunction[{{0., 100.}}, <>][t], InterpolatingFunction[{{0., 100.}}, <>][t]}
```

```
In[4]:= oscgraph1 = Plot[{First[sol1], Last[sol1]}, {t, 0, 100},  
  AxesLabel -> {"t", "x, y"}, PlotStyle -> {Dashing[{}], Dashing[{0.02, 0.02}]}
```



```
In[5]:= xsol1[t_] := First[sol1]
```

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In[6]:= ysol1[t_] := Last[sol1]
```

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In[7]:= oscgraph2 = ParametricPlot[{xsol1[t], ysol1[t]},  
  {t, 0, 100}, PlotRange -> {{-3, 3}, {-4, 4}}, AxesLabel -> {"x", "y"}]
```

