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1. Differential equations Flash demo

2. FrAid scripts used in the demo

2.1. Lorenz equation

```
clear; a=10;b=28;c=8/3; controlVar(a,1,b,1,c,1); lor1( x1, x2, x3, t ) = a * (x2 - x1); lor2( x1, x2, x3, t ) = b*x1 - x2 - x1*x3; lor3( x1, x2, x3, t ) = x1*x2 - c*x3; x=0; y=1; z=0; controlVar(x,.1,y,.1,z,.1); startP=0; endP=100; numberSamples=10000; rk1( lor1,//the system lor2, lor3, x, y, z, //the initial condition startP, //the start point endP, //the end point numberSamples, /*number of samples*/ "_rk"); plot3(_rk_0,_rk_1,_rk_2,0,30); plot(_rk_0,_rk_1,_rk_2);
```

2.2. Rosseler equation

```
clear(); a=.2; b=.2; c=5.7; x0=0.001; y0=1; z0=0.001; startP=0; endP=100; numberSamples=1000; controlVar( a, b, c, x0, y0, z0, startP, endP ); rsslr22( x1, x2, x3, t, a1 ) = x1 + a1*x2; rsslr33( x1, x2, x3, t, b1, c1 ) = b1 + x3*(x1-c1); rsslr1( x1, x2, x3, t ) = -x2 - x3; rsslr2( x1, x2, x3, t ) = rsslr22( x1, x2, x3, t, a ); rsslr3( x1, x2, x3, t ) = rsslr33( x1, x2, x3, t, b, c ); rk1( rsslr1,//the system rsslr2, rsslr3, x0, y0, z0, //the initial condition startP, //the start point endP, //the end point numberSamples, /*number of samples*/ "_rk1");
plot3("zPlot3PlugInDemo1",_rk1_0,_rk1_1,_rk1_2,0,100);
```