

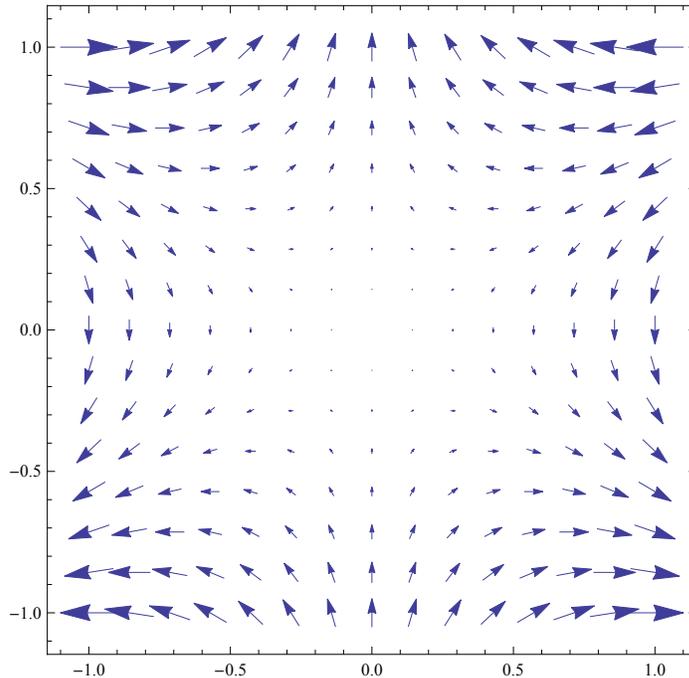
```
SetDirectory["C:\\drorbn\\AcademicPensieve\\Classes\\12-267"]
```

```
C:\\drorbn\\AcademicPensieve\\Classes\\12-267
```

```
p = x3 - 3 x y2; quad = Expand[{D[p, y], -D[p, x]} / 3]
```

```
{-2 x y, -x2 + y2}
```

```
VectorPlot[quad, {x, -1, 1}, {y, -1, 1}]
```



```
MakeImage["MonkeySaddleFlow",
```

```
Show[Join[
```

```
{VectorPlot[quad, {x, -1, 1}, {y, -1, 1}, Frame -> None]},
```

```
Table[
```

```
eqns = Join[
```

```
Thread[{x'[t], y'[t]} == (quad /. {x -> x[t], y -> y[t]}),
```

```
{x[0] == RandomReal[{-1, 1}], y[0] == RandomReal[{-1, 1]}}
```

```
];
```

```
sol = NDSolve[eqns, {x, y}, {t, -1, 1}];
```

```
ParametricPlot[
```

```
Evaluate[{x[t], y[t]} /. sol,
```

```
{t, -1, 1},
```

```
PlotRange -> {{-1, 1}, {-1, 1}}, ColorFunction -> (Red &
```

```
],
```

```
{100}
```

```
]
```

```
]]
```

```
]
```

```
NDSolve::ndsiz: At t == 0.8255183059825543, step size is effectively zero; singularity or stiff system suspected. >>
```

NDSolve::ndsz : At t == -0.915207, step size is effectively zero; singularity or stiff system suspected. >>

InterpolatingFunction::dmval :

Input value {-0.999959} lies outside the range of data in the interpolating function. Extrapolation will be used. >>

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NDSolve::ndsz : At t == -0.959576, step size is effectively zero; singularity or stiff system suspected. >>

General::stop : Further output of NDSolve::ndsz will be suppressed during this calculation. >>

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Input value {-0.999959} lies outside the range of data in the interpolating function. Extrapolation will be used. >>

General::stop : Further output of InterpolatingFunction::dmval will be suppressed during this calculation. >>

