

OUTPUT FILE: -

Test vector field 1:

$$\begin{aligned} u_x &= Y.^2 - X.^2; \\ u_y &= X.^2 + Y.^2 - 2; \end{aligned}$$

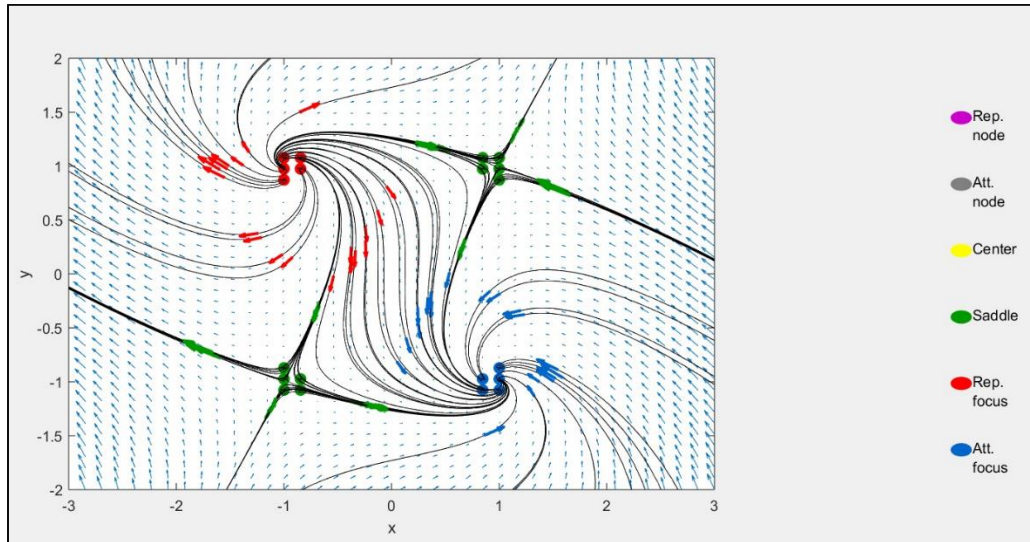


Figure 1: Original Topology

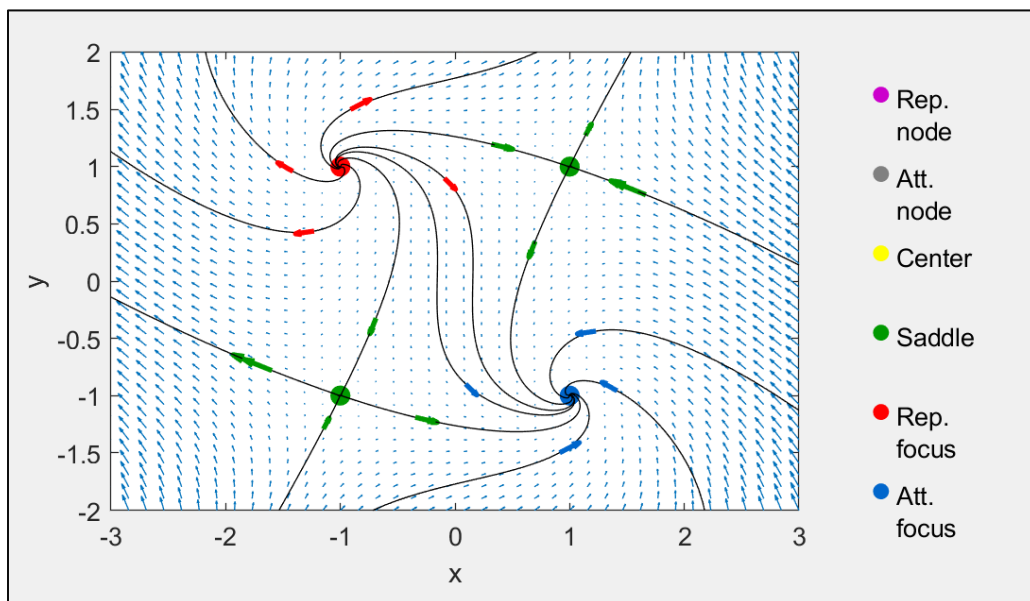


Figure 2: Simplified Topology

Test vector field 2:

```
ux = X.^2 - Y.^2;  
uy = X.^2 - sin(pi*Y.^2);
```

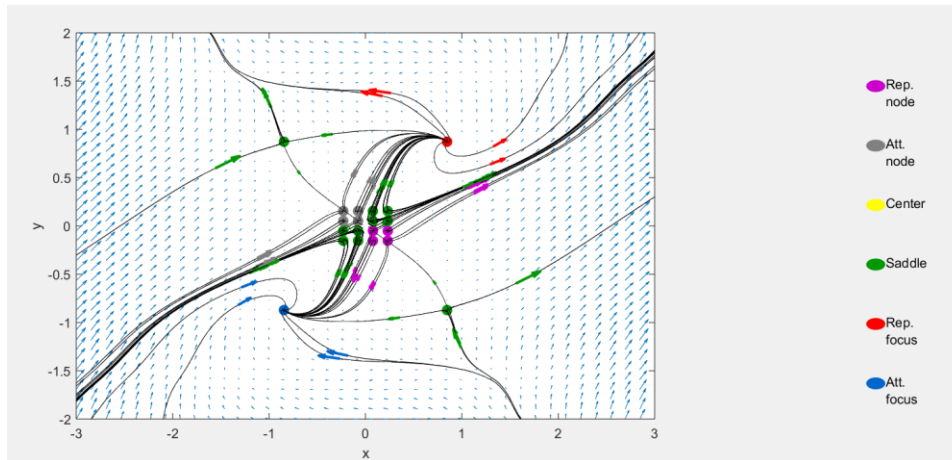


Figure 3: Original Topology

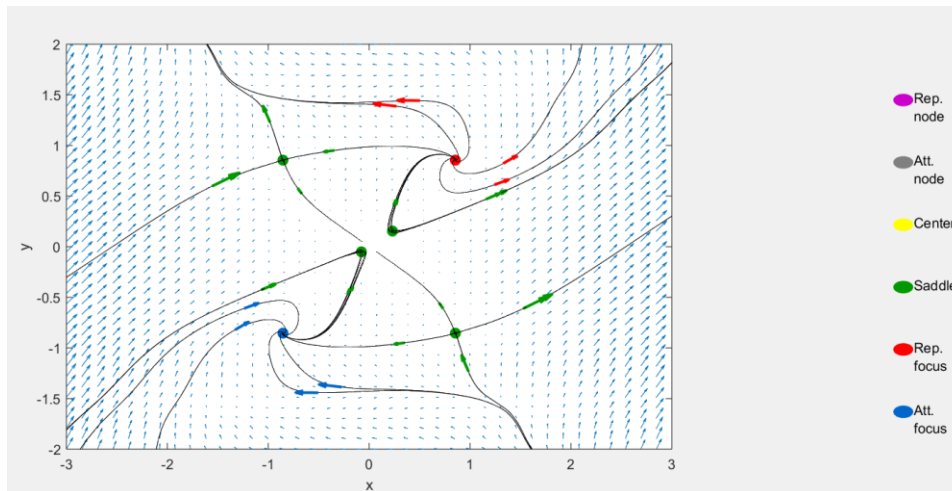


Figure 4: Simplified Topology

Test vector field 3:

```
ux = Y.^2 - sin(0.5*pi*X.^2);  
uy = X.^2 + Y.^2 - 2;
```

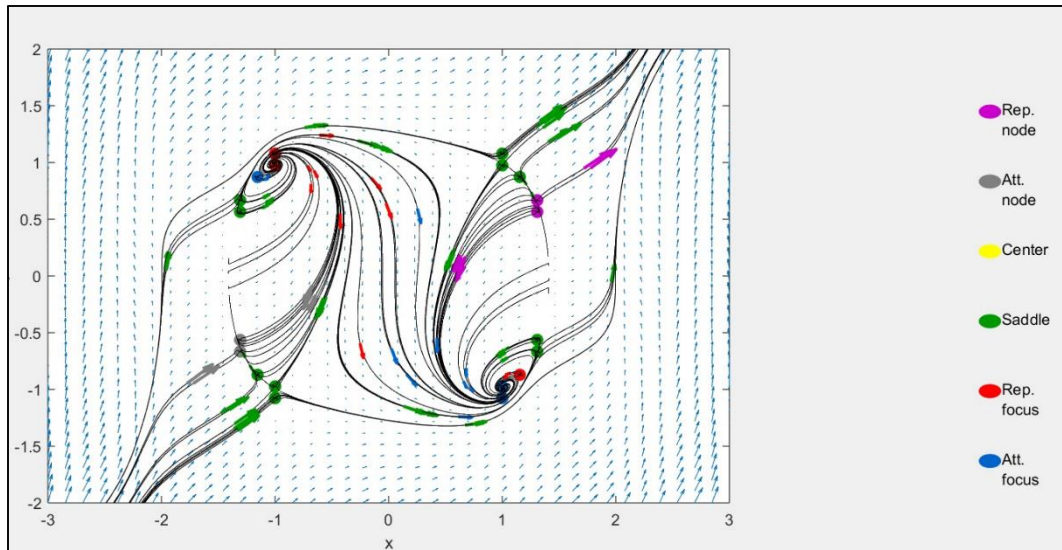


Figure 5: Original Topology

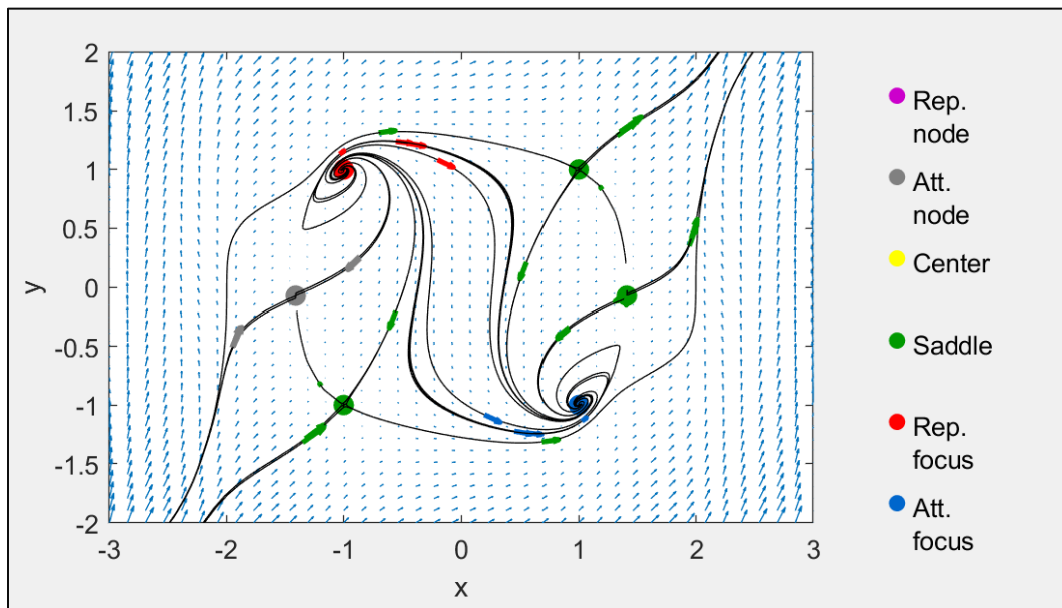


Figure 6: Simplified Topology

Test vector field 4:

```
ux = Y.^2 - cos(0.5*pi*X.^2);
uy= X.^2 + Y.^2 - 2;
```

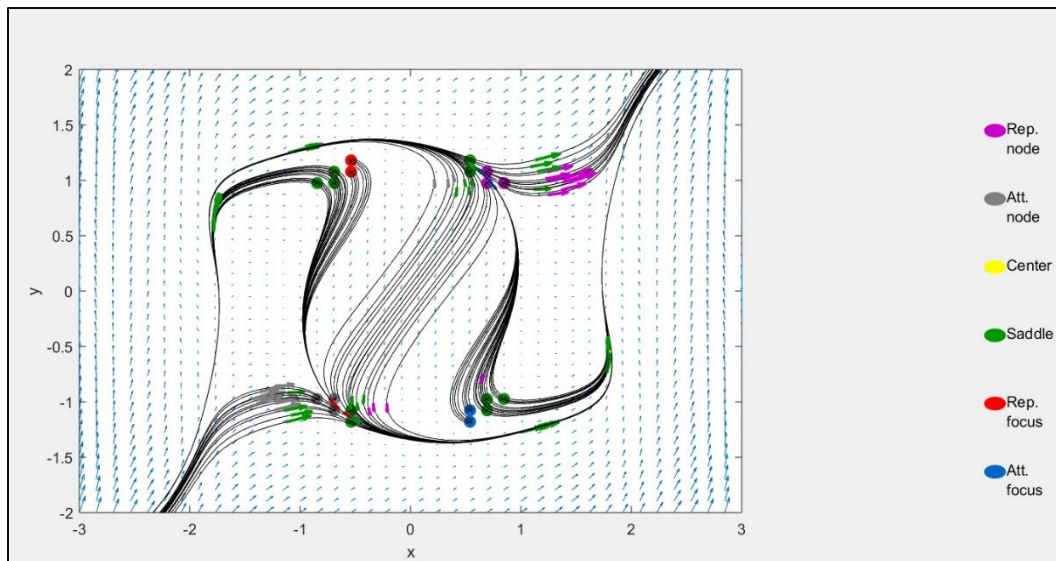


Figure 7: Original Topology

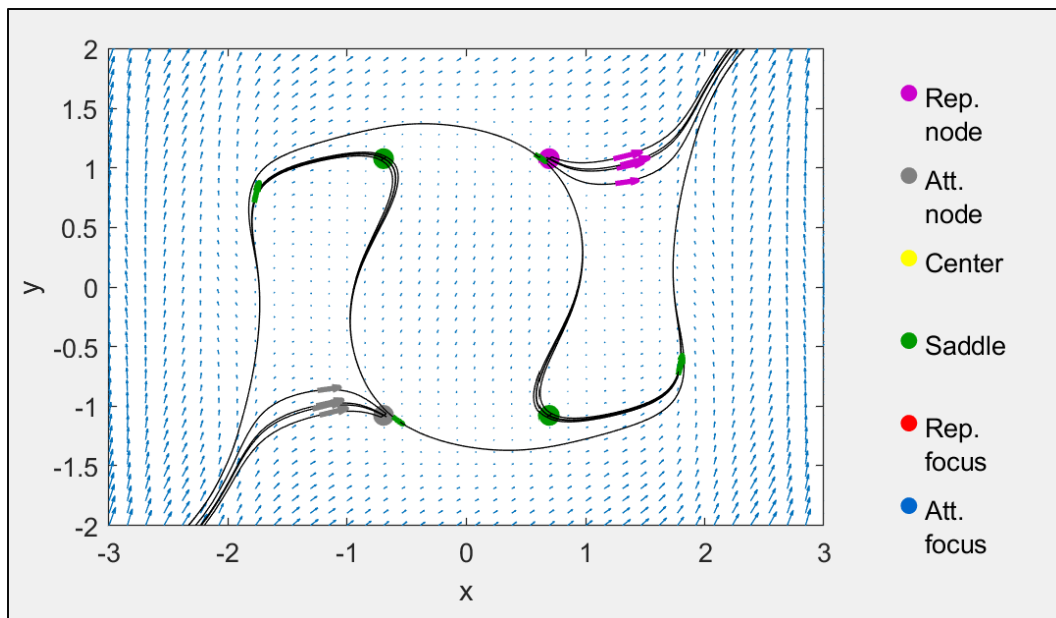


Figure 8: Simplified Topology