

(SOME) GLOBAL BIFURCATIONS OF ODES

Bifurcations of cycles		Homoclinic Bifurcations			
		Homoclinic to equilibria		Homoclinic to cycles	
		Hyperbolic	Non-hyperbolic	Hyperb.	Non-hyperb.
$n \geq 2$	<p><u>Cyclic fold</u>: $\mu = 1$</p>	<p><u>Saddle homoclinic</u></p>	<p><u>Saddle-node hom.</u></p> <p>$\lambda = 0$</p>		
$n \geq 3$	<p><u>Period-doubling</u>: $\mu = -1$</p> <p><u>Torus (NS)</u>:</p> <p>$\mu = e^{i\theta_0}$</p>	<p><u>Saddle homoclinic</u></p> <p>orientably twisted</p> <p><u>Saddle-focus homoclinic</u></p>	<p><u>Saddle-node hom.</u></p> <p>$\lambda = 0$</p> <p><u>Saddle-saddle homoclinics</u></p> <p>$k = 1, 2, \dots, m$</p>	<p><u>Hom. Tangency</u></p>	<p><u>Torus hom surface</u></p> <p>$\mu = 1$</p> <p>(smooth/non-smooth)</p> <p><u>Blue-sky!</u></p>
$n \geq 4$		<p><u>Focus-focus hom.</u></p>			<p><u>Twisted torus hom. surface</u></p> <p>Several torus Klein bottle</p>