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Homoclinic Snaking in Simple PDE Systems

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Spatially localized structures occur in many systems of physical interest, and are often organized in a so-called 'snakes-and-ladders' structure. In simple PDE systems this is a consequence of a related phenomena called homoclinic snaking. In recent years the Swift-Hohenberg equation has garnered much attention as the canonical model exhibiting this behavior. In this talk I will review the standard features of homoclinic snaking in the Swift-Hohenberg equation, and also discuss the generalization of these results to other simple PDE systems.