ABSTRACT

Limit cycles have been of interest in nonlinear dynamics since the investigations of Poincare in the 1880s. From a mathematical view they encapsulate much of the complexity of dynamics in the plane. On the other hand, systems with centres encapsulate much about the underlying geometry.

Bifurcation theory combines these two viewpoints into a powerful tool, which both estimates the number of limit cycles in such systems - and tell us about the centres which gave rise to them.