

## 211 LECTURE 26

We discuss "linearization" of a system at an equilibrium point, Jacobian matrices, the limits of comparing the qualitative behavior of a system and its linearization at an equilibrium point. We work on an example in detail and look at a lot of pictures.

**Example:** number 2 from ch 10.1 of text.

**Example:** consider the system  $x' = -y - xy - 4y^2$ ,  $y' = x + 2xy + x^3y$ . The linearization at the origin is a center, but the system itself is not. It has the behavior of a spiral source.