

Plots for the recurring epidemic

The recurring epidemic model is

$$\begin{aligned}x' &= -\beta xy + \mu, \\y' &= \beta xy - \gamma y.\end{aligned}$$

Here, x is the healthy population and y is the sick population. Baseline values are $\beta = 10^{-4}$, $\mu = 10$ and $\gamma = 0.2$. The critical point $(\gamma/\beta, \mu/\gamma) = (2000, 50)$ is a stable spiral. Below is a typical trajectory in phase and cartesian formats.

