

Report of the model SIR

PropEnfermedades APP

1. Model

Next we show the model used in the simulation.

Description

Modelo SIR, que representa la propagación de una enfermedad infecciosa en una población.

Equations

$$\begin{aligned}S' &= -b * S * I \\I' &= b * S * I - k * I \\R' &= k * I\end{aligned}\tag{1}$$

Parameters

- $b = 0,5$.
- $k = 0,1$.

Initial values

- $S_0 = 0,998$.
- $I_0 = 0,002$.
- $R_0 = 0$.
- $T_0 = 0$.
- $T_f = 100$.
- $dt = 1$.

Results

Next we show the results of the simulation using the model SIR with the parameters and initial values shown above.

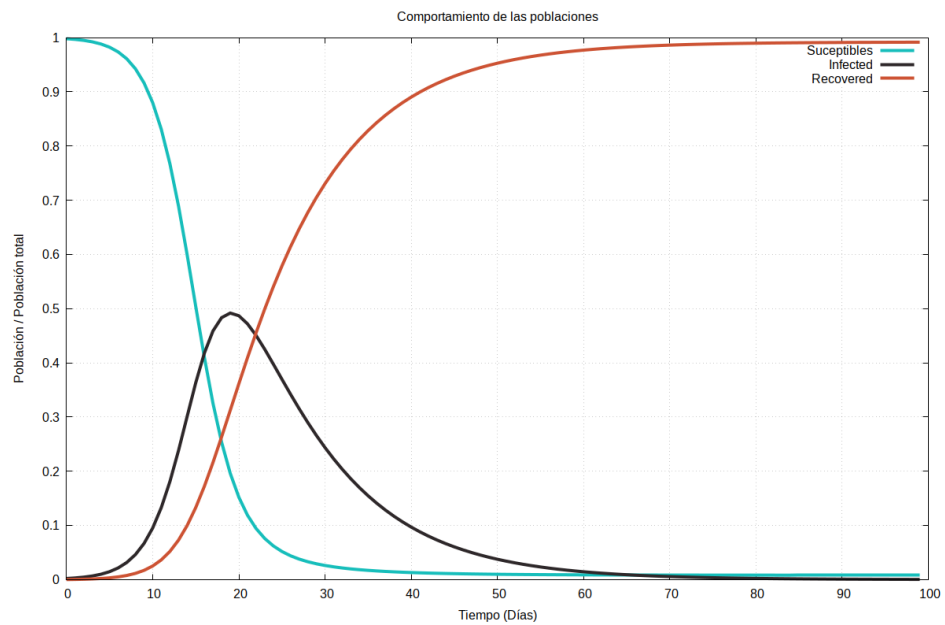


Figura 1: Graph of the model SIR

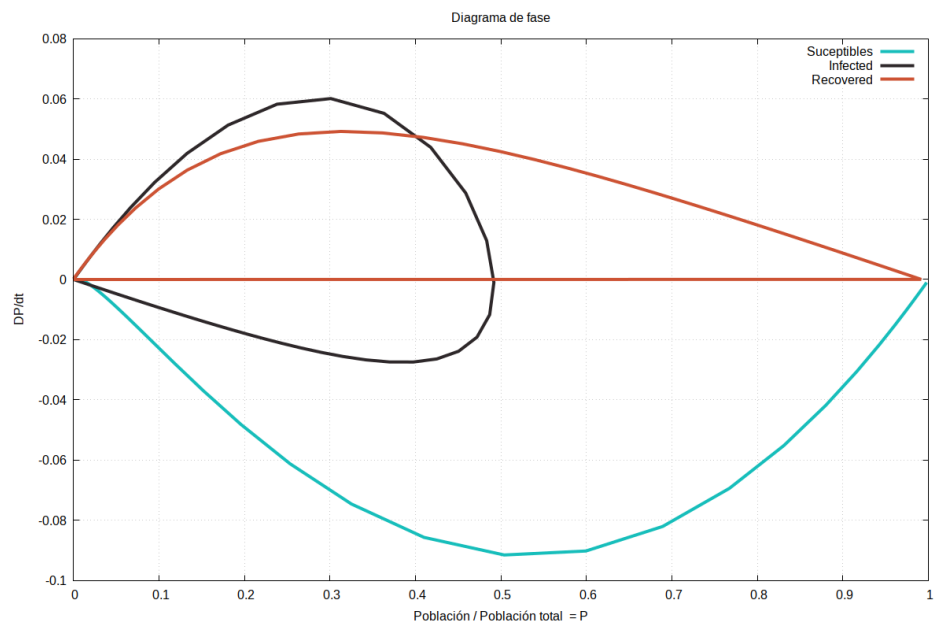


Figura 2: Phase portrait of the model SIR