SIR Model with Vaccination

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Abstract

Mathematical modeling is essential to disease control. The SIR model that first introduced by W.O Kermack and A.G McKendrick serves as a tool to analyze epidemic spreading and suppression. However, vaccination appeared in the 18th century changed the usual pattern of an epidemic spreading. Therefore, this project aims to examine the modified SIR model that includes the vaccination factor. By using both numerical and quantitative approaches, I will explore and compare the disease-free equilibrium and phase portrait for each model to determine vaccination's effectiveness on disease control.

Outline

References

Sudipa Chauhan , Om Prakash Misra and Joydip Dhar (2014)

Stability Analysis of SIR Model with Vaccination.

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