

Analysis and control of vaccination models with information

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Over the last few years, there have been significant developments in the field of mathematical theory of the spread of infectious diseases. These developments concerns the role of the feedback enacted onto an epidemics by the available information and rumors on the propagation of the infectious spreading itself.

This new viewpoint substantially changed the nature of models in mathematical epidemiology. Indeed, its classical models adopt an approach derived from statistical physics and theoretical chemistry: subjects are represented as interacting particles, so that the infection process, for example, is modeled by means of the mass-action of chemistry [1, 7, 10].

In this talk, we will focus on epidemic models including information-related human behavior. We present several results contained in recent papers [2, 3, 4, 6] and obtained in the framework of the new field of Behavioral Epidemiology [8, 9].

References

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