

Consequences of social pressure in epidemic spreading coupled with opinion dynamics regarding vaccination

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In this talk we will discuss a model of epidemic diffusion considering a coupling with an opinion dynamics. The opinion dynamics is governed by the majority-rule dynamics in groups with three individuals. The opinion states are defined as individuals in favor or against a vaccination campaign. Individuals against the vaccination follow a standard SIS model, whereas the pro-vaccine individuals can also be in a third compartment (Vaccinated). We also take into account that the vaccine can give permanent or temporary immunization to the individuals. Our analytical and numerical results indicate that the opinion dynamics drastically affect the disease propagation, and that the engagement of the pro-vaccine individuals can be crucial for stopping the epidemic spreading.

References

- [1] MARCELO A. PIRES, NUNO CROKIDAKIS, *Dynamics of epidemic spreading with vaccination: Impact of social pressure and engagement*, Physica A: Statistical Mechanics and its Applications 467, 167-169 (2017).