

Dynamic Processes on Social Networks – A Review

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The large popularity of various social networks (SNs) and the huge quantity of information publically made available on them captured the attention of those in need of timely and varied information, among other of those involved in managing disaster situations. SNs are pervasively distributed systems with high sensitivity to environmental events and virtually instantaneous responses to some of the events. However, such a generalized characterization needs more detail for making use of the full potentiality of SNs information. How fast do SNs respond? Does the type of event matter for the speed and amplitude of the answer? In the type of event influencing the vocabulary used? Is the dynamics of the response predictable? What information on the event the SNs do carry? When the peak of the response, measured by the number of messages, does occur? What influence on the response the inner structure of the network does play? These are some of the issues on which the presentation will work out and tentatively provide a few partial explanations using the ground of system and graph theories. Interestingly, while SNs are huge systems of essentially unknown, dynamic, and stochastic nature, they response to events seem to be quite simple and, apart details, the explanations of their typical responses seem reasonably easy to derive. This presentation summarizes some of the findings of a whole team during the work supported by the SPS Program grant G4877 recently ended and reviews more than 20 previously published papers.

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