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Quantifying Stability of Online Communities and Its Impact on Disinformation

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Abstract : Misinformation has taken an increasingly worrying place in social media. Propagation patterns are closely linked to the structure of communities. This study proposes a method of community analysis based on a combination of centrality indicators for the network and its main communities. The objective is to establish a link between the stability of the communities over time, the social ascension of its members internally, and the propagation of information in the community. To this end, data from the debates about global warming and political communities on Twitter have been collected, and several tens of millions of tweets and retweets have helped us better understand the structure of these communities. The quantification of this stability allows for the study of the propagation of information of any kind, including disinformation. Our results indicate that the most stable communities over time are the ones that enable the establishment of nodes capturing a large part of the information and broadcasting its opinions. Conversely, communities with a high turnover and social ascendancy only stabilize themselves strongly in the face of adversity and external events but seem to offer a greater diversity of opinions most of the time.

Keywords : community analysis, disinformation, misinformation, Twitter
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