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Modelling rumors: the no plane Pentagon French hoax case

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Abstract

The recent astonishing wide adhesion of French people to the rumor claiming “No plane did crash on the Pentagon on September 11TM”, is given a generic explanation in terms of a model of minority opinion spreading. Using a majority rule reaction “diffusion dynamics, a rumor is shown to invade for sure a social group provided it fulfills simultaneously two criteria. First it must initiate with a support beyond some critical threshold which however, turns out to be always very low. Then it has to be consistent with some larger collective social paradigm of the group. Otherwise it just dies out. Both conditions were satisfied in the French case with the associated book sold at more than 200 000 copies in just a few days. The rumor was stopped by the firm stand of most newspaper editors stating it is nonsense. Such an incredible social dynamics is shown to result naturally from an open and free public debate among friends and colleagues. Each one searching for the truth sincerely on a free will basis and without individual biases. The polarization process appears also to be very quick in agreement with reality. It is a very strong anti-democratic reversal of opinion although made quite

with reality. It is a very strong anti-democratic reversal of opinion although made quite democratically. The model may apply to a large range of rumors.



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Keywords

Rumors; Minority spreading; Reaction-diffusion

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