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Collective opinion formation on fluctuating networks VUDTIWAT NGAMPRUETIKORN, Okinawa Institute of Science and Technology, GREG STEPHENS, Vrije Universiteit Amsterdam Okinawa Institute of Science and Technology — Thanks to the advent of online social networks, not only are we more connected than ever but we are also able to design and maintain our own social networks. An insight into this phenomenon will be key to understanding modern societies. To this end, we argue that active network maintenance exposes individuals to selective exposure (preference for agreeing information sources) and we explore how this could affect the structure of social networks and collective opinion formation. More technically, we investigate opinion dynamics on a complex network with fast stochastic rewiring. We show that selective exposure while inducing segregation of agents with different opinions, stabilises consensus state regardless of opinion update rules. We argue further that selective exposure can lead to a shorter time to consensus. The time to consensus has non-trivial dependence on the magnitude of selective exposure. Moreover, we find for some opinion updating rules, selective exposure can increase the lifetime of opinion segregation (polarisation of opinions).

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