

Emergence of echo chambers in a noisy adaptive voter model

André M. Timpanaro¹

¹ Universidade Federal do ABC, 09210-580 Santo André, Brazil

Belief perseverance is the widely documented tendency of holding to a belief, even in the presence of contradicting evidence. In online environments, this tendency leads to heated arguments with users “blocking” each other. Introducing this element to opinion modelling in a social network, leads to an adaptive network where agents tend to connect preferentially to like-minded peers. In this work we study how this type of dynamics behaves in the voter model with the addition of a noise that makes agents change opinion at random. As the intensity of the noise and the propensity of users blocking each other is changed, we observe a transition between 2 phases. One in which there is only one community in the whole network and another where communities arise and in each of them there is a very clear majority opinion, mimicking the phenomenon of echo chambers. These results are obtained with simulations and with a mean-field theory.

References

- [1] André M. Timpanaro - **Emergence of echo chambers in a noisy adaptive voter model**
- *arXiv:2409.12933*

Type

ORAL