

Abstract Submitted
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Pattern Selection and Super-Patterns in Opinion Dynamics ELI BEN-NAIM, Los Alamos National Laboratory, ARND SCHEEL, University of Minnesota — We study pattern formation in the bounded confidence model of opinion dynamics. In this random process, opinion is quantified by a single variable. Two agents may interact and reach a fair compromise, but only if their difference of opinion falls below a fixed threshold. Starting from a uniform distribution of opinions with compact support, a traveling wave forms and it propagates from the domain boundary into the unstable uniform state. Consequently, the system reaches a steady state with isolated clusters that are separated by distance larger than the interaction range. These clusters form a quasi-periodic pattern where the sizes of the clusters and the separations between them are nearly constant. We obtain analytically the average separation between clusters L . Interestingly, there are also very small quasi-periodic modulations in the size of the clusters. The spatial periods of these modulations are a series of integers that follow from the continued-fraction representation of the irrational average separation L .

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