SOE 18: Social Systems, Opinion and Group Dynamics: Opinions and Innovations

Time: Wednesday 16:15–16:45   Location: H36

SOE 18.1   Wed 16:15   H36

Phase transitions in the hybrid q-r-w-voter model on complete graph — •Piotr Nyczka[1] and Katarzyna Sznajd-Weron[2] — [1]Jacobs University, Bremen, Germany — [2]Wrocław University of Technology, Wrocław, Poland

The subject of this paper is the analysis of fundamental properties of the opinion dynamics model which goes far beyond the q-voter model. We have delivered analysis of the hybrid q-r-w-voter model which is an extended q-voter model with addition of two types of nonconformity (applied with different probabilities, which are parameters of the model) and with specific thresholds of minimal majority in the group, needed for effective interaction. Purpose of this extension was the attempt to generalize some binary models of opinion dynamics: voter model, Sznajd model q-voter model and modified majority model and to go beyond that.

There was an order-disorder phase transition present, but it could be continuous or discontinuous. We have discovered how parameters of the model influence the type of transition, and what is the difference between two types of nonconformity (anticonformity and independence) in terms of phase diagrams. It is worth to mention that this difference could manifest itself or remain hidden, depending on the parameters of the model.

We answered these questions in the case of complete graph. Further investigation should be conducted on other types of networks to answer the question of the generality of results.

SOE 18.2   Wed 16:30   H36

Fostering Peace - The normative Peace Project — •Hermann Rampacher — Rampacher & Partner GbR VDE

In normative socio-dynamics for every society sets of mutually correlated actions {a(i)} can be constructed. If an a(i) is done a potential damage d is arising, measured by the average collective cost of restoring the situation ex ante. If all a(i) are refrained from doing, the potential damage is minimal and peace between men, states, and between men and nature are maintained. In other word: If all norms n(i), which forbid the a(i), are obeyed, the over-all peace is maintained. If the collective co-operation is declining, the n(i) are violated more frequently: peace is put in risk. To restore peace on a lower level, agents have to intervene by fostering compliance with n(i) of higher d[n[a(i)]] at the expense of compliance with n(j) of lower d[[a(j)]]. Every intervention entails risks. Their value depends on the competence of the responsible agents and the ressources they have. once the violations of norms with lower damage potential reaches a critical level, the interventions are bocoming out of all propotions to restore peace. Hence more violations of norms by further agents are likely to result as side-effects of the primary interventions. Hence these violations my spread - due to correlations between the a(j) - in the manner of an epidemic or pandemic: justice an peace are declining rapidyl.