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Strategy of Competition between Two Groups based on an Inflexible Contrarian Opinion Model QIAN LI, Boston University, LIDIA BRAUNSTEIN, Universidal Nacional de Mar del Plate-CONICET, SHLOMO HAVLIN, Bar Ilan University, GENE STANLEY, Boston University — We introduce an inflexible contrarian opinion (ICO) model in which a fraction p of inflexible contrarians within a group holds a strong opinion opposite to the opinion held by the rest of the group. At the initial stage, stable clusters of two opinions, A and B exist. Then we introduce inflexible contrarians which hold a strong B opinion into the opinion A group. Through their interactions, the inflexible contrarians are able to decrease the size of the largest A opinion cluster, and even destroy it. We see this kind of method in operation, when companies send free new products to potential customers in order to convince them to adopt their product and influence others to buy it. We study the ICO model, using two different strategies, on both ER and SF networks. In strategy I, the inflexible contrarians are positioned at random. In strategy II, the inflexible contrarians are chosen to be the highest degrees nodes. We find that for both strategies the size of the largest A cluster decreases to zero as p increases as in a phase transition. At a critical threshold value p_c the system undergoes a second-order phase transition that belongs to the same universality class of mean field percolation. We find that even for an ER type model, strategy II is significantly more effective.

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