عنوان مقاله:

Some results on non-progressive spread of influence in graphs

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خلاصه مقاله:

This paper studies the non-progressive spread of influence with threshold model in social networks. Consider a graph G with a threshold function τ on its vertex set. Spread of influence is a discrete dynamic process as follows. For a given set of initially infected vertices at time step 0 each vertex v gets infected at time step i, $i \geq 1$, if and only if the number of infected neighbors are at least $\tau(v)$ in time step $i-1$. Our goal is to find the minimum cardinality of initially infected vertices (perfect target set) such that eventually all of the vertices get infected at some time step ℓ. In this paper an upper bound for the convergence time of the process is given for graphs with general thresholds. Then an integer linear programming for the size of minimum perfect target set is presented. Then we give a lower bound for the size of perfect target sets with strict majority threshold on graphs which all of the vertices have even degrees. It is shown that the later bound is asymptotically tight.

كلمات کلیدی:

Spread of Influence, Target Set, Dynamic Monopoly, Non-Progressive