信息与知识管理

基于连续影响函数的群体观点演化模型与仿真

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摘要： 针对HK模型不能反映个体间信任和影响是由量变到质变的过程，建立了具有连续影响函数形式的舆论演化模型，并对模型进行了模拟实验。结果显示：有界信任参数越大，观点集团的数量就越少，而群体观点收敛的时间越短；完全影响的区间参数越大，观点集团的数量就越少，集团内观点趋于一致所需时间越长；整个群体观点最终趋于一致时，收敛时间随参数的增加而减少。此外，仿真结果还说明当个体自信心较强时，观点集团数量较多，而每个小集团内观点趋于稳定的时间较短；当群体观点趋于一致时，个体自信程度越高，收敛时间越长。

关键词： 连续影响函数　HK模型　有界信任　群体观点演化

Simulation of Group Opinions Evolution Model Based on Continuous Impact Function

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Abstract: Because Hegselmann Krause model could't well interpret the process of trust and interacts between individuals ,which is from quantitative change to qualitative change in a social network, a new model about group opinion evolution is established based on continuous impact function. The simulation of this model clearly shows the less clusters numbers and the shorter convergence time of group opinions with the larger the parameter of bounded confidence. If the parameter of whole impact interval is larger, the opinion clusters decreases, and the convergence time of group opinion becomes longer. But if all the individuals' opinion is the same finally, the convergence time will be shorter with the larger of this parameter. In addition, the simulation further shows if the force of self confidence of individual is strong, the number of opinion clusters is always be large. If the consensus is reached finally, the convergence time of group opinions becomes longer with the stronger self confidence of individuals.

Keywords: continuous impact function　HK model　bounded confidence　group opinions evolution

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