

Power in network structures

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Abstract

We consider an application of power indices which take into account preferences of agents for coalition formation proposed for an analysis of power distribution in elected bodies to reveal most powerful (central) nodes in networks.

These indices take into account the parameters of the nodes in networks, a possibility of group influence from the subset of nodes to single nodes, and intensity of short and long interactions among the nodes.

Some properties of the indices are discussed.

Various applications are presented for the network of countries those of religion, migration, foreign claims, conflicts, exchange of students, food export-import, etc.

It is a joint work with Natalia Mescheryakova and Sergey Shvydun.