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The Power Index Game On A Lattice

In 1954, Lloyd Shapley and Martin Shubik introduced the Shapley-Shubik power index as a perspective model of voting behavior. Richard Nowakowski recently applied this to game theory, developing the power-index game. We used simulations of the power-index on a torus to explore long-term behavior. We also investigated using Markov chains to predict proportions of large-scale structures. Through this we built a case that there is a global structure to the game when run on large boards.

This is joint work with Jordan Barrett and Dr. Jeanette Janssen.