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Combinatorial voter control in elections.

Summary: Voter control problems model situations such as an external agent trying to affect the result of an election by adding voters, for example by convincing some voters to vote who would otherwise not attend the election. Traditionally, voters are added one at a time, with the goal of making a distinguished alternative win by adding a minimum number of voters. In this paper, we initiate the study of combinatorial variants of control by adding voters. In our setting, when we choose to add a voter \( v \), we also have to add a whole bundle \( \kappa(v) \) of voters associated with \( v \). We study the computational complexity of this problem for two of the most basic voting rules, namely the Plurality rule and the Condorcet rule.

Keywords: voting; NP-hard election control problem; domain restrictions; the plurality rule; Condorcet’s rule; parameterized complexity
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