

# The equivalence between adjacent non-manipulability and strategy-proofness in voting domains: A sufficiency result

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## Abstract

Strategy-proofness is an important issue in any model where agents have private information. It ensures that agents have the incentive to truthfully reveal their private information, irrespective of their beliefs regarding the announcements made by the other agents. Strategy-proofness assumes that every feasible preference is a candidate for manipulation. A more natural and plausible requirement based on behavioral considerations, is that agents only consider manipulations that are “near” or “close” to their true preference. In a finite voting environment, this is interpreted as preference orderings that are at a Kemeny distance of one from the true preference ordering. A social choice function is adjacent non-manipulable, if it is immune to such local manipulations. A domain satisfies equivalence if every adjacent non-manipulable social choice function defined on this domain, is also strategy-proof. We identify a condition on domains that is sufficient for equivalence. This condition is weaker than the condition provided by [Sato \(2013\)](#). We conjecture that the condition is also necessary. We also provide an additional condition that is necessary; and in conjunction with the requirement of unanimity on the social choice function is also sufficient.

## REFERENCES

SATO, S. (2013): “A sufficient condition for the equivalence of strategy-proofness and non-manipulability by preferences adjacent to the sincere one,” *Journal of Economic Theory*, 148, 259–278.

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