

Graphical Characterizations for Excluding Informational Braess' Paradox

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The Informational Braess' Paradox (IBP) illustrates a counterintuitive scenario where revelation of additional roadway segments to *some* self-interested travelers leads to increased travel times for *these* individuals. IBP extends the original Braess' paradox by relaxing the assumption that all travelers have identical and complete information about the network. In this talk, we discuss the conditions under which IBP does not occur in networks with multiple origin-destination pairs. Our results completely characterize the graphical topologies immune to IBP, thus resolving an open question proposed by Acemoglu et al. [1].

References

- [1] Daron Acemoglu, Ali Makhdoui, Azarakhsh Malekian and Asuman Ozdaglar, Informational Braess' paradox: The effect of information on traffic congestion. *Oper. Res.* **66** (2018), 893-917.