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Stellingen

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Robust Synchronization and Model Reduction of Multi-Agent Systems

van

Hidde-Jan Jongsma

1. Robust synchronization of directed heterogeneous networks with uncertain agent dynamics remains an open problem for additive, multiplicative, and coprime factor perturbed agent dynamics, *Chapter 2*
2. For networks with higher-order agents dynamics, it can be difficult or impossible to show consensus is preserved after a model reduction step without imposing further assumptions on the agent dynamics. However, Chapter 3 provides a rare exception.
3. If the graph of a network with symmetric agent dynamics and edge-disjoint cycles is reduced to a star graph, then the approximation error is proportional to the number of removed cycles and independent of the number of agents, *Chapter 4*
4. Since it is unclear how to optimally reduce a network (either through clustering or cycle-removal), for application of both model reduction techniques to large-scale networks we will need to develop heuristic methods that can efficiently determine how to reduce a network in such a way that the approximation error is small enough for practical purposes.
5. Door deze troef te spelen loopt de VS het risico nat te gaan; met name in de lager gelegen gebieden.
6. *Wabi-sabi* en *shabu-shabu* zijn Japanse principes die elk op eigen wijze onze westerse levens kunnen verrijken.
7. Er is nog nooit een mens geweest die een korrel aarde heeft bezeten, *gedicht van Jan Arends (1925-1974)*
8. Wa't syn holle net brûkt, moat syn fuotten brûke. (Wie zijn hoofd vergeet, moet zijn benen gebruiken.)