

112. Zvi Artstein and Saša V. Raković, **Set-invariance under output-feedback: A set-dynamics approach**. International Journal of Systems Science 42 (2011), 539-555.

Abstract. An approach is offered to examine sets which are invariant with respect to output feedback under non-parametric disturbances. The model follows standard feedback invariance considerations with, however, a crucial modification that is needed when only an observation of the state is available. The model incorporates information gathered by the controller during the process. The evolution of the resulting information sets determines invariant sets and attractors of the state dynamics. The framework in this paper is discrete-time control systems. We offer an analysis of the notion with results on existence of, and convergence to, output feedback invariant sets; illustrative examples related to potentially practical feedback rules are exhibited.

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