

Simplified outlier detection for improving the robustness of a fuzzy model

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Table 1 A subset of outliers.

Index of Condition Part	$x(t-6)$	$x(t-5)$	$x(t-4)$	$x(t-3)$	$x(t-2)$	$x(t-1)$	$x(t)$	True $x(t+1)$	Outliers $x(t+1)$
79945	0.974	0.966	0.956	0.947	0.940	0.940	0.949	0.969	0.569
79945	0.966	0.956	0.947	0.940	0.940	0.949	0.969	0.999	0.599
79945	0.956	0.947	0.940	0.940	0.949	0.969	0.999	1.037	0.537
56772	0.689	0.642	0.599	0.558	0.520	0.487	0.459	0.438	0.938
39916	0.642	0.599	0.558	0.520	0.487	0.459	0.438	0.427	0.927
39573	0.599	0.558	0.520	0.487	0.459	0.438	0.427	0.429	0.929

Table 2 Centers of the output subsets.

Index of Condition Part	Centers without Outliers		Centers with Outliers	
	WM	Proposed Method	WM	Proposed Method
79945	0.975	0.977	0.953	0.975
56772	0.389	0.389	0.534	0.440
39916	0.413	0.430	0.479	0.418
39573	0.412	0.439	0.489	0.422

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