

Accepted Manuscript

Robust H_∞ Filtering for Markov Jump Systems with Mode-dependent Quantized Output and Partly Unknown Transition Probabilities

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PII: S0165-1684(17)30066-X
DOI: [10.1016/j.sigpro.2017.02.010](https://doi.org/10.1016/j.sigpro.2017.02.010)
Reference: SIGPRO 6405



To appear in: *Signal Processing*

Received date: 17 October 2016
Revised date: 22 December 2016
Accepted date: 15 February 2017

Please cite this article as: Deyin Yao, Renquan Lu, Yong Xu, Lijie Wang, Robust H_∞ Filtering for Markov Jump Systems with Mode-dependent Quantized Output and Partly Unknown Transition Probabilities, *Signal Processing* (2017), doi: [10.1016/j.sigpro.2017.02.010](https://doi.org/10.1016/j.sigpro.2017.02.010)

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HIGHLIGHTS

- This paper considers the H_∞ filtering for MJSs subject to mode-dependent quantized output and unknown transition probabilities, which are more practical in the realistic systems. Hence, the obtained results of our paper are more robust.
- Compared with those existing studies for MJSs, our study considers more complex conditions: (i) the output quantization signal $y_q(t)$ will make system
- extremely complex to achieve the error dynamics. However, in our paper, the quantization error of the output is transformed into a bounded nonlinearity via a model transformation; (ii) the detail knowledge of transition probabilities is tough to obtain. Hence, more general stochastic stability criteria can be derived through the research of our article.

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