

Accepted Manuscript

Distributed Kalman consensus filter with event-triggered communication: formulation and stability analysis

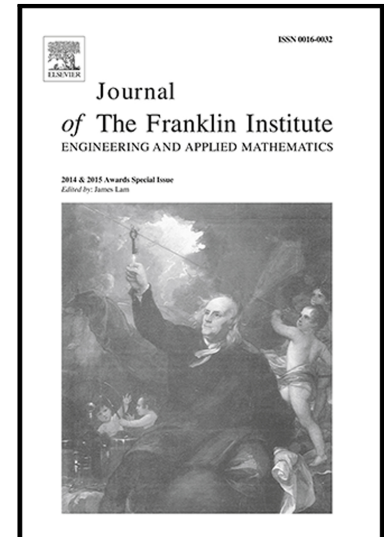
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PII: S0016-0032(17)30236-3
DOI: [10.1016/j.jfranklin.2017.05.013](https://doi.org/10.1016/j.jfranklin.2017.05.013)
Reference: FI 2987

To appear in: *Journal of the Franklin Institute*

Received date: 6 July 2016
Revised date: 19 January 2017
Accepted date: 1 May 2017

Please cite this article as: Cui Zhang, Yingmin Jia, Distributed Kalman consensus filter with event-triggered communication: formulation and stability analysis, *Journal of the Franklin Institute* (2017), doi: [10.1016/j.jfranklin.2017.05.013](https://doi.org/10.1016/j.jfranklin.2017.05.013)



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Highlights

- The problem of distributed state estimation in sensor networks with event-triggered communication schedules on both sensor-to-estimator channel and estimator-to-estimator channel is studied.
- An event-triggered KCF is designed by deriving the optimal Kalman gain matrix which minimizes the mean squared error.
- A computational scalable form of the proposed filter is presented by some approximations.
- An appropriate choice of the consensus gain matrix is provided to ensure the stochastic stability of the proposed filter.

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