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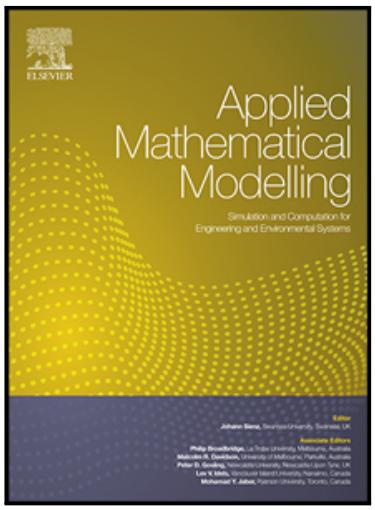

Fractional Order Attitude Stability Control for Sub-satellite of Tethered Satellite System during Deployment

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PII: S0307-904X(18)30177-X
DOI: 10.1016/j.apm.2018.04.005
Reference: APM 12244

To appear in: *Applied Mathematical Modelling*

Received date: 11 April 2017
Revised date: 26 March 2018
Accepted date: 5 April 2018

Please cite this article as: GOU Xing-wang , LI Ai-jun , GE Yang-yang , WANG Chang-qing , Fractional Order Attitude Stability Control for Sub-satellite of Tethered Satellite System during Deployment, *Applied Mathematical Modelling* (2018), doi: 10.1016/j.apm.2018.04.005

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Highlights:

- A dynamic model of sub-satellite motion is established based on Euler equation.
- The stability characteristics of attitude motion with dissymmetric junction points in the tether deployment phase are proposed.
- A feedback linearization method is used to linearize the sub-satellite attitude dynamic model.
- The fractional-order controller is designed to stably control the sub-satellite attitude.

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