

[DOWNLOAD](#)

## Model-Based Self-Tuning Multiscale Method for Combustion Control

---

By Dzu K. Le

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. A multi-scale representation of the combustor dynamics was used to create a self-tuning, scalable controller to suppress multiple instability modes in a liquid-fueled aero engine-derived combustor operating at engine-like conditions. Its self-tuning features designed to handle the uncertainties in the combustor dynamics and time-delays are essential for control performance and robustness. The controller was implemented to modulate a high-frequency fuel valve with feedback from dynamic pressure sensors. This scalable algorithm suppressed pressure oscillations of different instability modes by as much as 90 percent without the peak-splitting effect. The self-tuning logic guided the adjustment of controller parameters and converged quickly toward phase-lock for optimal suppression of the instabilities. The forced-response characteristics of the control model compare well with those of the test rig on both the frequency-domain and the time-domain. This item ships from La Vergne, TN. Paperback.



**READ ONLINE**  
[ 8.49 MB ]

### Reviews

*Excellent electronic book and valuable one. We have read and so i am sure that i am going to likely to study again once more in the foreseeable future. I am just happy to inform you that here is the very best book i have read during my personal lifestyle and might be he greatest book for possibly.*

-- **Brendan Wuckert**

*This ebook is definitely not straightforward to start on looking at but really enjoyable to learn. It usually will not charge excessive. It is extremely difficult to leave it before concluding, once you begin to read the book.*

-- **Karianne Deckow**