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## Design and Implementation of a Characterization Test Rig for Evaluating High Bandwidth Liquid Fuel Flow Modulators

By Joseph R. Saus

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. A test rig was designed and developed at the NASA Glenn Research Center (GRC) for the purpose of characterizing high bandwidth liquid fuel flow modulator candidates to determine their suitability for combustion instability control research. The test rig is capable of testing flow modulators at up to 600 psia supply pressure and flows of up to 2 gpm. The rig is designed to provide a quiescent flow into the test section in order to isolate the dynamic flow modulations produced by the test article. Both the fuel injector orifice downstream of the test article and the combustor are emulated. The effect of fuel delivery line lengths on modulator dynamic performance can be observed and modified to replicate actual fuel delivery systems. For simplicity, water is currently used as the working fluid, although future plans are to use jet fuel. The rig is instrumented for dynamic pressures and flows and a high-speed data system is used for dynamic data acquisition. Preliminary results have been obtained for one candidate flow modulator. This item ships from La Vergne, TN. Paperback.



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