



Advanced Jet Noise Exhaust Concepts in NASA's N+2 Supersonics Validation Study and the Environmentally Responsible Aviation Project's Upcoming Hybrid (Paperback)

By Brenda S Henderson

Bibliogov, United States, 2013. Paperback. Condition: New. Language: English . Brand New Book ***** Print on Demand *****. Acoustic and flow-field experiments were conducted on exhaust concepts for the next generation supersonic, commercial aircraft. The concepts were developed by Lockheed Martin (LM), Rolls-Royce Liberty Works (RRLW), and General Electric Global Research (GEGR) as part of an N+2 (next generation forward) aircraft system study initiated by the Supersonics Project in NASA's Fundamental Aeronautics Program. The experiments were conducted in the Aero-Acoustic Propulsion Laboratory at the NASA Glenn Research Center. The exhaust concepts presented here utilized lobed-mixers and ejectors. A powered third-stream was implemented to improve ejector acoustic performance. One concept was found to produce stagnant flow within the ejector and the other produced discrete-frequency tones (due to flow separations within the model) that degraded the acoustic performance of the exhaust concept. NASA's Environmentally Responsible Aviation (ERA) Project has been investigating a Hybrid Wing Body (HWB) aircraft as a possible configuration for meeting N+2 system level goals for noise, emissions, and fuel burn. A recently completed NRA led by Boeing Research and Technology resulted in a full-scale aircraft design and wind tunnel model. This model will be tested acoustically in...



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