



Predicting the Inflow Distortion Tone Noise of the NASA Glenn Advanced Noise Control Fan with a Combined Quadrupole-Dipole Model

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BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 28 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. A combined quadrupole-dipole model of fan inflow distortion tone noise has been extended to calculate tone sound power levels generated by obstructions arranged in circumferentially asymmetric locations upstream of a rotor. Trends in calculated sound power level agreed well with measurements from tests conducted in 2007 in the NASA Glenn Advanced Noise Control Fan. Calculated values of sound power levels radiated upstream were demonstrated to be sensitive to the accuracy of the modeled wakes from the cylindrical rods that were placed upstream of the fan to distort the inflow. Results indicate a continued need to obtain accurate aerodynamic predictions and measurements at the fan inlet plane as engineers work towards developing fan inflow distortion tone noise prediction tools. This item ships from La Vergne, TN. Paperback.



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