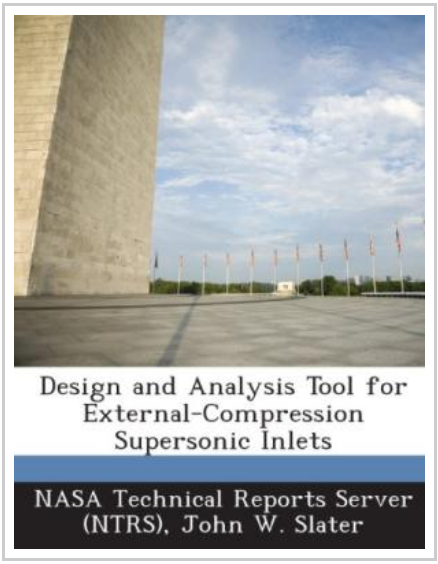

Design and Analysis Tool for External-Compression Supersonic Inlets

By John W. Slater

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 32 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.A computational tool named SUPIN has been developed to design and analyze external-compression supersonic inlets for aircraft at cruise speeds from Mach 1. 6 to 2. 0. The inlet types available include the axisymmetric outward-turning, two-dimensional single-duct, two-dimensional bifurcated-duct, and streamline-traced Busemann inlets. The aerodynamic performance is characterized by the flow rates, total pressure recovery, and drag. The inlet flowfield is divided into parts to provide a framework for the geometry and aerodynamic modeling and the parts are defined in terms of geometric factors. The low-fidelity aerodynamic analysis and design methods are based on analytic, empirical, and numerical methods which provide for quick analysis. SUPIN provides inlet geometry in the form of coordinates and surface grids useable by grid generation methods for higher-fidelity computational fluid dynamics (CFD) analysis. SUPIN is demonstrated through a series of design studies and CFD analyses were performed to verify some of the analysis results. This item ships from La Vergne,TN. Paperback.

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