Final Report: DOT/FAA/TC-21/25: EMST_Panel1_Phase2_Aramis

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Dataset Metadata

Dataset Creators: Yongzhe Tian, Dave Stanley, John Bakuckas Jr., Mike Kulak, Erin Fulton

Corporate Creator:

William J. Hughes Technical Center
Federal Aviation Administration
Aviation Research Division
Structures and Materials Section
Atlantic City International Airport, NJ 08405

Corporate Contributor:

U.S. Department of Transportation
Federal Aviation Administration
FAA Transport Airplane Directorate
Airframe/Cabin Safety, ANM-115
1601 Lind Avenue SW
Renton, WA 98057

Report Description: In partnership with Arconic and Embraer, the Federal Aviation Administration (FAA) is assessing emerging metallic structures technologies (EMST) using the FAA's Full-Scale Aircraft Structural Test Evaluation and Research (FASTER) facility. In this collaborative effort, full-scale fuselage panel test data will be obtained to assess the effect of EMST fuselage concepts on damage tolerance performance as compared to the current baseline aluminum fuselage structures located on the crown of a typical single-aisle aircraft forward of the wing. Several technologies will be considered in the scope of the project, including advanced aluminum–lithium alloys, selective reinforcement using fiber metal laminates, and advanced joining processes, such as friction stir welding. Data from this study will be used to verify improved weight and structural safety performance of EMST and to assess the adequacy of existing airworthiness standards and guidance needed for the implementation of arising technologies and their impact on future designs. Results from the first baseline panel test are summarized in this technical note and will be compared to future tests on advanced panels containing varying EMST to assess the damage-tolerance performance.

About the data: The compressed data files in this zip file are still quite large: over 2 GB. The zip file can be unzipped using any zip compression/decompression software. Data files in the zip folder include: .txt files, accessible via any text editor; .docx files, accessible via Microsoft Word or open document programs; .xlsx spreadsheets, accessible via Microsoft Excel or other open spreadsheet programs; and .PDF files, accessible Adobe PDF readers or other PDF reading

programs. Because this is a large dataset, it is not attached to this ROSA P record. Please use this link to download the data zip file directly: https://doi.org/10.21949/mbfn-fd23

National Transportation Library (NTL) Curation Note:
This data is presented "As-Is". NTL staff have taken no further curation steps. If, in the future, you have trouble accessing this dataset, please email NTLDataCurator@dot.gov describing your problem. NTL staff will do its best to assist you at that time.