Documentation Sheet

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Abstract

This Project Document describes the salient features and validation of a software package called "HELI-HQPACK" which has been developed at the FMC Division, NAL, under a grant-in-aid scheme of the Operational Problems and Airworthiness Panel, AR&DB, New Delhi. The software can be used for the evaluation of the *quantitative* handling qualities requirements of helicopters specified in the Aeronautical Design Standard ADS-33E. The software package, developed in MATLAB, is modular in structure and GUI based. A demonstration program and on-screen help messages are included in the software to help a new user. The input data, in the form of input-output time histories, can be loaded either manually or in automatic mode. The numerical output comprising of the values of the handling qualities parameters, and the graphical output comprising of handling qualities level plots are stored automatically in specific files. Using the software even a large amount of flight test data can be evaluated quickly and efficiently. The software has been validated using the BO 105 helicopter flight test data obtained from the Rotorcraft Branch, Institute of Flight Systems, DLR, Germany and the results are documented in this report.