



GL4000 SUSTAINED-G FLIGHT SIMULATOR PILOT ASSESSMENT AND MOTION FIDELITY ANALYSIS

Summary

The goal of this study is to acquire expert opinions on the capabilities of the GYROLAB GL-4000 Continuous G Device (CGD) utilizing the NASA GTM aeromodel for Upset Prevention and Recovery Training (UPRT). Twenty air transport pilots were invited to the NASTAR Center to fly the GL-4000 and were asked to give Cooper Harper ratings for various maneuvers and complete a questionnaire about their experience. The answers to these questionnaires will be used for device improvements and a possible statistical analysis depending on the outcome of the data.

Objectives

- To improve GL-4000 fidelity by assessing device characteristics and automated upset recovery profiles
- To develop a simulator Cooper-Harper type rating system for quantitative simulator fidelity analysis
- To determine physiological and motion sickness symptom development of GL4000 pilots in order to develop appropriate training protocols

Customer/Partner

ETC Internal Research

Status

Complete (Summer 2011). Final report was presented at AIAA Modeling and Simulation Conference Summer 2012.

Publications

American Institute of Aeronautics and Astronautics (AIAA)