Flying Quality Study under the Inflence of Clear Air Turbulence

Clear air turbulence (CAT) is one of the most influential factor inflight safety and flight quality consideration. In this work weattempt to simulate CAT wind velocities, invent 3-D turbulencemeasuring and prediction parameters (indices), and using geneticalgorithm (GA) to find the optimum escape trajectory. Results showmoderate success and it is hoped that the concepts and techniquesimplemented in this work could be used in future airborne Dopplerradar research and flight simulation practice.