CONTINUOUS DESCENT APPROACHES AGAINST MODIFIED TIMING REQUIREMENTS : A DESIGN STUDY

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Abstract

In order to meet the challenges of growing air traffic, many research activities have been initiated to come up with more efficient and safe flight operations including Trajectory Based Operations. One of the initiatives has been to control Time-of-Arrival during enroute descend phase of flight. The design studies presented in this paper investigate possibility of making minor adjustments using thrust control at near idle position to avoid final altitude errors. Nominal altitude time trajectories coupled with its boundaries using thrust control are adopted for the purpose. To synchronize with ground based Decision support Tools, message set requirements for Aircraft Intent, as proposed by Boeing, have been addressed. Simulation results on the flight path trajectories and typical case studies for changing the time of arrival are presented to validate the approach. Possible areas for further studies are highlighted.