

THE APPLICATION OF INVERSE SIMULATION TECHNIQUES TO THE MODELLING OF SPATIAL MANOEUVRES

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Abstract

The paper deals with the inverse simulation problem of aircraft general motion. The aircraft is subject to follow a specified trajectory in space (two program constraints), and two other demands are on the airframe attitude with respect to the trajectory and on the flying speed. The guide-lines for the effective modelling of the aircraft prescribed trajectory flight are discussed, and a method for computing the time histories of state variables and program control (that ensures the realisation of programmed motion) is developed. Some results of numerical simulations of a take-off manoeuvre are reported for illustration.