

Smart Pilot

Contributed by COR Group

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The study aims at designing an autopilot for a virtual prototype of an aircraft in Adams, a multi body software produced by MSC.Software. The objective is to perform dynamic analysis on a set of prescribed closed loop maneuvers, even aggressive ones, defined by the customer. A controller based on combined Receding Horizon and Backstepping techniques was designed to perform maneuver regulation. A second controller was designed by solving an LQR problem on time varying linearization of the dynamics. In order to test the two controllers a rigid model of aircraft has been designed in Adams.