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Vortragstitel	A Geometric Algorithm for the Calculus of Multidimensional Airborne Conflict Resolution Trajectories
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Abstract	<p>This article describes the calculus, instruction and operational conduction of air traffic conflict resolution maneuvers. A so called "air traffic conflict" shall define a situation, in which, according to projections of their flight paths, one or more aircraft are predicted to be situated inside a collision avoidance zone of a defined shape (e.g. cylinder) that is virtually placed around some other aircraft. The resolution of a traffic conflict is achieved via proper resolution maneuvers conducted by the involved aircraft. They consist of flight paths for which a penetration of any collision avoidance zone is impossible. So called "recapture maneuvers" directing an aircraft back on its scheduled track after a resolution maneuver was completed shall also be presented. Content of this article are maneuvers via horizontal turns, horizontal turns with additional vertical speed modification and via track speed modifications without horizontal direction change. Maneuvers of these kinds are generated by a geometric algorithm that analytically calculates flight path parameters on the basis of kinematic information about the involved aircraft. For the instruction of flight attitude commands to the cockpit crew, the traditional Flight Director was adapted and a novel flight guidance display was designed additionally. Both instruments were used in pilot tests on the simulator of the TU Graz "Research Platform Flight Simulation" in order to evaluate the above mentioned resolution maneuvers generated by the designed algorithm as well as the flight guidance displays. A description of these tests and their results completes this article.</p>