

CFD SIMULATIONS OF STORE SEPARATION: AN INDIAN PERSPECTIVE

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Abstract

CFD analysis played a very major role in predicting the safe separation of many stores including missiles, guided bombs, drop tanks from various airborne platforms namely, fighter aircraft, helicopters etc. Number of indigenous CFD based stores separation suites are developed by coupling flow solvers, 6 Degrees-of-freedom (6DOF) trajectory programs and efficient pre and post processors. These packages were validated against reliable experimental results and were applied to many practical applications. These analyses gave very good confidence to the designers, test pilots and certifying agencies to clear the flight trials without much wind tunnel testing. This paper highlights the author's experience of use of CFD techniques to predict external store separation from fighter aircraft pertaining to Indian system.