

Third Winner

Applied Research

Project Title

**Integrated Aerospace Systems
Dynamic Simulation Software
(ISYS)**



Initiator: Air Defense Systems
Research Institute, Flight Mechanics
Technology Research Center

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Abstract

Flight simulation softwares are important tools which effectively reduce the cost of design, analysis, test, manufacture and optimization of different flying vehicles. The development of Integrated Aerospace Systems Dynamic Simulation Software (ISYS) has provided a great engineering tool by which flight characteristics and dynamic behavior of various aerospace systems can be predicted before manufacture and test. ISyS is an integration of different modules that are required for dynamic analysis of aerospace systems. It can be applied for design, analysis, optimization, firing table generation, error analysis, and evaluation of flight test results in a field of various flying vehicles. These characteristics make ISyS different from any other similar software. By now, more than 60 research and industrial projects have been done using this software. Moreover, several million dollars have been saved by using ISyS in design and production chain of various products. Besides, more than 50 conferences and journal publications, 8 MSc dissertations, and 4 PhD theses, are some other scientific benefits of this plan.