

Evaluation Method to Determine Small Aircraft Pilot's Reaction Time

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Abstract: In the more than 110 years long history of aviation, the cause of accidents has changed a lot. While in the early years about 80 per cent of accidents were caused by mechanical failure and the rest were caused by human error, these proportions have inverted. It is a well-known fact that the human error causes about 80% of accidents nowadays. Therefore understanding every aspect of human pilot and developing new models is the most important way to improve safety.

A method called Subjective analysis was published by prof. J. Rohács (Budapest University of Technology and Economics) and prof. V.A. Kasyanov (Kiev Aviation University). Using this method the time required that a pilot, in other cases an air traffic controller or an UAV operator can make his decision in any developing dangerous situation can be determined. Knowing this time and time available to prevent the mentioned situation the pilots' competencies can be classified.

This paper introduces the subjective method, the present state of efforts were made in flight simulator laboratory of Department of Aeronautics, Naval Architecture, Railway Vehicles to use this method in the interest of determination of different pilots' limits, difficulties emerged and required development of method and tools to fit the model to pilots.

Keywords: endogenous system, subjective analysis, decision time