

# Influence of Strong Wind on the Fall Accident at the Bulk Cargo Door Position of an MD-11 Airplane

by

Katsumi HIRAOKA, Satoshi OKADA, and Nobuyuki ARAI

(Received on March 27, 2003 & accepted on July 22, 2003)

## Abstract

At the Fukuoka airport under strong wind, a veteran worker, who was checking the rock pin of the bulk cargo door of an MD-11 airplane, fell down. In order to investigate the relationship of this fall accident and strong wind, a wind tunnel experiment and numerical computations using Fluent were carried out. Using a 1/100 scale model of the airplane, velocity distribution was measured by a hot wire probe. Calculating the three-dimensional inviscid incompressible flow, a flow field was obtained. It was shown that when there is a side wind against the airplane axis, a strong blow with complex vortices occurs on the leeward rear side of the fuselage. It is considered that such a strong wind broke down the worker's balance and led to the fall accident.

*Keywords: Strong Wind, Fall Accident, Airplane, Wind Tunnel Experiment, Numerical Calculation*

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\*1 Associate Professor, Department of Aeronautics and Astronautics.

\*2 Graduate Student, Course of Aeronautics and Astronautics.