Aerodynamic Characteristics for the Design of Rubber-Ball

by

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Abstract

This paper is described on the aerodynamic characteristics for the design of a rubber ball. This study is a basic research for optimum design of surface structure of the rubber-ball used in the baseball. As a first stage, it is important that the flying characteristics of the rubber-ball in the non-rotational stage is grasped. The balls used for experiment were of 5 kinds of surface structure such as a smooth sphere, a ball with dimples, a ball with the seams, and a ball with dimples and seams. From the experimental results, the difference in aerodynamic lift and drag among these surface structures of the ball was clarified. The flow pattern of the rubber ball circumference for each ball was confirmed by the visualization experiment.

Keywords: Rubber-Ball, Drag, Lift, Drag Coefficient, Surface Structure

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