Performance Test of Unmanned Observation Aircraft SKY-1 as a Tool for Field Survey

Kazuto Saiki[1]

[1] Earth and Space Sci., Osaka Univ.

An unmanned observation aircraft SKY-1 was developed and examined from the standpoint of users who use it as a tool for their field survey. The results will be presented Recent advances in integrated circuit technology enable manufacture of a small lightweight remote control plane. Those planes are utlilized for military purposes, forest investigation, volcano disaster prevention, etc. However, most of them are evolving into highly automated unmanned planes consuming a large amount of employment cost. Few attempts have been made to develop an observation unmanned airplane as a tool which researchers can operates easily. The status quo that an unmanned aircraft is not employed for science research of precursory phenomena of volcanic eruption for which monitoring budget is not provided will not change. Then, the personal radio control observation airplane as an auxiliary tool in case a geologist or the research staff of self-governing body investigates dangerous areas, such as a volcano vent, by himself was developed. The major reasons blocking the spread of the utilization of observation unmanned airplanes are ”the problem of crash” and ”the problem on operation”.

”The problem of crash” includes the following three points.

(1) The problem of a possibility of inflicting an injury on people or destroying property.

(2) The problem of the damage done to a landscape when the wrecks of the crushed plane are left in a cliff, a crater, etc. where we cannot approach.

(3) The problem of the budget shortage interrupting the research with limited research fund. ”The problem on operation” includes the following two points.

(a) The problem where an investigator cannot control the plane by himself.

(b) The problem where an investigator cannot carry the plane to the investigation field.

I present the newly developed unmanned radio control plane which can be easily used as a tool and which solves these problems. To show the performance of SKY-1 some impressive movies will be presented.