

## ABSTRACT

Mobile robots are the most popular types of robots in the world of robotics research. In terms of benefits, research on various types of mobile robot is expected to help people in doing automation in the transportation, safety, production and for monitoring. Nowadays technology has been developed for mobile robot that moves on land and in the water, but for a mobile robot in the air or the so-called aero robot is still very small, but very useful aero robot. Aero robots is becoming more popular among researchers worldwide for their versatility and ability to perform various tasks that are not easy to do man, as did surveillance on the border, taking aerial photographs in remote areas, identification of damage to the affected areas, and others. The main advantage of the aero robot is able to reach areas that are difficult and dangerous without endangering the lives of pilots.

For now the robot aero developments in Indonesia is still small. Aero robot is still focused on the measurement of weather, but aero robot can be used anywhere, such as in the police as a means of monitoring transport, search and rescue team as a search tool on the victims of natural disasters such as floods, industrial field can be used as a monitoring tool industrial area, in military can be used as a spy tool and many other functions.

At the end of the project is expected to be realized in the design and implementation of aero mechanical robot that can be controlled so that it can be specified direction at a certain height. The project was created by combining the elements of the mathematical arts and technology. Applying the theory of the golden ratio in mechanical design technology aero multicopter design robots that form the hope of getting results and good flying qualities and a stable vehicle attitude then designed a tool called DZUBCOPTER

(Keyword: Aero robot, multicopter, golden ratio, mechanical)