

ABSTRACT

UV (Ultraviolet) rays are currently needed for room sterilization during the Covid-19 pandemic priode that hit the whole world in 2020. The UV rays used for give the damage to viruses and bacteria is UVC (Ultraviolet type C) rays which have a wavelength of 190-280 nm. UVC also dangerous for humans, so the application from UVC rays must be effective and precise on the surrounding environment

To be able to solve the problem of effectiveness and accuracy of UVC light irradiation, a system called AUMR (Autonomous UVC Mobile Robot) will be design which the functions to carry the UVC lamp to sterilize the room. The AUMR possible run automatically following a magnetic line in the form of a magnetic tape by being read by a magnetic sensor and also using a rotary encoder sensor to read the position of the robot. For the movement and positioning of the robot, the fuzzy logic method is used to adjust the movement and positioning the robot with magnetic tape and the distance when the UVC lamp must be turn on.

The result of the study of 2 fuzzy logic membership functionality on the AUMR robot. Obtained an accuracy of 99.75% and an average error of 0.25%, by compairing the results of trials with kinematics method. It was found that the robot did not succeed in making a graph that formed the actual trajectory due to the mechanical factor of the robot.

Keywords – *UVC, Autonomous UVC Mobile Robot, Fuzzy Logic*