

ABSTRACT

Currently telecommunications technology is developing very rapidly, even has been applied in the automotive field, like a car without a driver or known as the Driverless Car. But the Driverless car must know the position and speed of the surrounding vehicle to avoid a collision. Therefore, we need a system that can monitor the position and speed of the vehicle.

In this Final Project will be carried out the design and simulation of the Frequency Modulated Continuous Wave (FMCW) radar that has one transmitter antenna and three receiver antennas to obtain information on the positions based on distance and angle, and detect target speed. of the target. The target arrival angle is obtained using the concept of intersecting two circles, while the distance information is obtained by analyzing the delay or the time delay as long as the signal is transmitted until the signal returns to the radar system. To detect moving targets, the radar system uses the Doppler effect. By using the Doppler effect, velocity information can be obtained from the target with the wave source as its parameter.

The simulation results prove the FMCW radar system has the ability to detect target positions based on distance and angle, detect and speed of the target.

keywords: *FMCW Radar, effect Doppler*