

## ABSTRACT

MIMO Architecture has been proven to be an effective way to maximize performance and capacity in wireless telecommunication system without using a lot of cost in additional bandwidth and/or power. Using an additional diversity technique, the transmission system can help to resolve multipath fading that usually happened in MIMO system. This feature (MIMO and Diversity technique) makes them become a part that can't be separate in wireless technology in modern time.

In this Final Task, studied Space diversity and Polarization diversity and how they affect the MIMO architecture, based on paper "Aspect on Space and Polarization Diversity in Wireless Communication System".

The results of this final task show the influence of space and polarization diversity on the MIMO antenna. This influence is seen through the parameters gain, directivity, and efficiency of the antenna, S parameter, and correlation coefficient. Diversity technique affects the correlation coefficient value which is better (closer to 0) and better efficiency (higher percentage value).

**Keywords : MIMO, Diversiy, Space Diversity, Polarization Diversity**