

ABSTRACT

Metamaterial microwave absorber is one of the technology to be applied into the Indonesian military defence technology. It can be applied in many aspect of defence. This thesis designs a metamaterial microwave absorber at working frequency of 9.375 GHz based on square ring resonator.

This thesis uses selective surface method, since it is flexible and adjustable for a certain frequency. The size and form of patch for absorber at 9.375 GHz are created, combined, and optimized using this method. This thesis first calculates the patch size and then continue to patch exploration using Computer Simulation Technology (CST) software. The results are produced and tested.

This thesis are an found an optimum patch size with outer patch length 22.85 mm and inner patch length of 16.35 with a S1.1 result of -30.255104 dB . This result provides 99.99% signal absorption. The result is expected to provide significant contributions to Indonesia Military defence technology.

Keywords: *Metamaterial, Microwave Absorber.*