

ABSTRACT

In this final project made an simulation of wave fall sideways incidents by using the hardware and software. The wave used is focused on electromagnetic wave. So in this final project discussed about electromagnetic wave that fell sideways. In simulations using the medium one and medium 2. Medium one uses air while using an acrylic medium that has two parameters in it.

Hardware experiment is done by tranceive the signal from the horn antenna placed on the medium one, then the signal comes with a certain income angle to medium 2. After the signal arrived at the field boundary, the signal will split into two parts, the transmit signal and reflection signal. Then get the reflection angle, the transmit angle, and the Brewster angle.

Software simulation, using a program Matrix Laboratory (MATLAB). By using MATLAB, use mathematical calculations about wave that fell sideways incident, which can be displayed in the GUI. The results from experiments with the hardware and software that is obtained will be analyzed. In this final produce that experiment successfully evidence about Snellius's Law about wave that fell on the field boundary.

Keywords: Electromagnetic Wave that Fell Sideways, Income Angle, Reflection Angle, Transmit Angle, Brewster angle, MATLAB.