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Research-Pairing-Project Report-Progress

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Topic: SCATTERING OF ELECTROMAGNETIC WAVES FROM FLAT SURFACE OF GLASS MATERIAL.

Description of our work and what will be done during this Project

The scattering is a phenomenon of redirecting radiation out of the original direction of propagation. The scattering may be due to interaction with molecular and particles. Like other radiation such as sound waves, electromagnetic waves are the well known forms of radiation that undergo scattering. The electromagnetic wave scattering have got several applications, for instance: sunlight is scattered from rain drops to form the rainbow, radio waves are scattered by radar which has the application in telecommunication, and infrared radiation from an infrared camera is scattered by the target to get a picture this is applied in remote sensing. The electromagnetic waves scattering can occur from different surfaces shape such as; flat surface, cylindrical surface and spherical surfaces.

The scattering in this small research will be considered to be electromagnetic waves scattering from a flat glass surface for an incident wave. And the scattered wave will be in the form of reflected wave or transmitted waves. The resulting model will be applied to study the white light scattering on surface of a glass material in which we expect the scattered wave to be the separation of 7 colors of rainbow which constitute the white light. In this research we will develop the model of electromagnetic wave scattering from electromagnetic wave equation in matter using the appropriate boundary condition. The model will tell us how much wave scattered backward in the incident medium and how much wave scattered forward in the second medium. The good thing is that this model will be employed to study the white light scattering in glass medium.

Future Plan:

This week: Reading and summarize 4 articles related to our project. Each of us will read 2 articles related to this topic during the week and then after in week-end we will meet to put together what we have read and summarized.

Week II: We will make an introduction from what we have summarized and some mathematical part.

1 Introduction

1.1 Background of Research

1.2 Definition

1.3 Objectives

1.4 General Objectives

1.5 Specific Objectives

2 Mathematical Part

Week III:

3 Results and Discussion

Week IV:

4 Conclusion and Recommendation

Week V:

Abstract

Note: Every member of our group will be working alone for each point during the 5 days and then during the week-end we will be meeting for discussion and to combine the ideas and make a final report for each point of subject of week