UNIVERSITI TEKNOLOGI MARA

MODELLING OF THE CARRIER MOBILITY OF *L. LEUCOCEPHALA* WOOD PLASTIC COMPOSITE (WPC) FOR PHOTOCONDUCTIVE ANTENNA

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ABSTRACT

Photoconductive antennas are most common devices used for generation and detection of Terahertz (THz) radiation and somehow have some similarity to the conversional RF/microwave antennas on the other hand, they also somehow different from the RF/microwave antennas in terms of the feeding technique. There are limitation on this antenna which is low efficiency and difficult to obtain high power. Study of the carrier mobility of photoconductive antenna substrate was significant to enhance antenna performance. This paper is aim to modelling carrier mobility of *Leucaena Leucocephala* Wood Plastic Composite (WPC) as photoconductive antenna substrate, using regression method and error bars within two samples with same density composition; 70% of polypropylene and 30% of *L. Leucocephala* filler Wood were analyzed. A simple model reproduces to predict the measured behavior.

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To my lord Allah S.W.T

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