

ABSTRACT

Positioning is a technique in determining an object position, where this can be measured by the receiver or by the object it self, whether indoor or outdoor. Indoor positioning requires very high accuracy, it caused by there are multipath signals which can be able to influence the performance of positioning.

Time of Arrival (TOA) is one of the positioning technique according to the arrival time signal from the transmitter to the receiver. In this final project, MUSIC Algorithm (Multiple Signal Classification) is used as a super-resolution TOA, where this algorithm is good to be used for multipath channel with a large bandwidth.

Ultrawideband (UWB) technology is an application wireless technology for indoor communication. Its frequency is 3.1-10.6 GHz. It will gives an advantage where the positioning technique using MUSIC Algorithm will gives better performance for the wider bandwidth.

In this final project, will be analized the propagation delay between object and each receivers for indoor environment using MUSIC Algorithm and using Chan Algorithm to determine the object position in coordinat (x,y) . Indoor channel that used in this final object is Saleh-Valenzuela channel.